The Builder.

VOL. XVI.—No. 801.

The Distribution of the Sewage of Towns.

LET us look again at the Report of the Government Commissioners on this subject. Irrigation, as a branch of agricultural science, requires to be studied further in this country, great as may be the antiquity of the thing itself. The methods that have been adopted for distributing sewage with economy, are of as much value in the sanitary object as in the agricultural one. If even it is found to pay, to provide steam power to force the sewage to elevated places; if the scarcely impregnated water of the Milan sewerage applied to the land, greatly increase the value of this latter; and if the limit of application as to quantity in the more important instances, has never been reached, we have surely cause to say that ere this, the question as connected with London sewerage, should have been answered with a direct affirmative or a negative. The only experiment yet tried (at Stanley-bridge, Fulham) failed from causes which are perfectly well understood. When we find in the account of the Craigentinny meadows at Edinburgh, that "the fertility is invariably in proportion to the quantity of sewage employed," we are inclined to coincide with Mr. Austin, in his Report, that there "can be no reason why, by similar methods, judiciously applied, similar results may not, in most cases, be produced, wherever liquid sewage is at command." The difference of value between certain portions of the Scotch meadows is said to arise from the fact that in one case, "the continuous application of the sewage is reduced to a system, by which immense quantities of manure are judiciously put upon the land; while in the other cases very inadequate quantities are injudiciously given by intermittent application, without system." And the same authority continues,—

"There is nothing special in the Edinburgh case beyond this, and the mode of disposal of the produce. The ordinary sewage of a mixed population is there distributed in enormous bodies of water over land of various quality, light and heavy; and that portion of the land which was naturally not well suited for the reception of such large quantities of liquid, was rendered so by artificial drainage. * * *

The same course of irrigation goes on through the winter, and if any portion of the land has not done so well the previous season, it is treated in the winter time with a larger quantity of the sewage than usual, invariably with marked improvement. The limit of the production has not yet been reached; the more water each portion of the land receives, the larger is the crop produced."

Though Mr. Austin, in the Report quoted from, restricted his attention to less important places than London, we recapitulate the statements as tending to show that some of the difficulties in the copiousness of the sewage of London might be overcome with the agency of the legislature. The financial objections, if not the evils sanitarily, which have arisen from distribution by the system of pipes, and hose and jet, could be overcome by the well-known inexpensive system of contour-gutters as practised by Mr. Bickford, of Crediton; whilst advantages of that method as to speedy absorption by the roots and soil are essentially called for. The objections to the open ditches at Edinburgh would be overcome by substitution of underground mains, as recommended by Mr. Austin; and thus, with proper drainage, it would seem that an enormous amount of sewage might be used and deodorised by the only effective agent—the soil; and that pure water could be returned in channels to feed again the river. We have met with no analysis of water from the drains after irrigation of land by sewage; but if we may trust to appearance and taste in the instances at Reigate and Rusholme, both mentioned in former articles treating of this subject, no impurity would exist that need be apprehended.

The great points to keep in view agriculturally, sanitarily, and commercially, in this question of outfall and utilisation, are, both that water is the best and the proper vehicle for the application of manure, and that the operations of nature, supplemented by science in drainage, will effect in the best manner, deodorisation. Whilst to prevent noxious influences in the atmosphere breathed by man, and for the health of the plant, stagnation of surface water must be prevented; in like manner, stagnation in the soil must be prevented, by land-drainage. In the article on Irrigation in the new edition of the "Encyclopædia Britannica," the writer, Mr. James Caird, says:—"The great use of drainage is to render the soil like an open filter, through which the water, as it passes off, is deprived of much of its fertilising qualities,"—those, in fact which exist in the sewage of towns. "Grass is the surface filter which retains the fertilising qualities of the water of irrigation; the soil is the underground filter which acts in the same capacity on the water of drainage." "The water of irrigation must *pass* over the surface, and that of drainage through the soil and substratum, before any benefit can arise from its presence."

Although greater care is necessary in the management of irrigation than may have appeared above, it is clear that the method of disposal of sewage deserves at this juncture very energetic examination. The most careful consideration that we can give to the subject, tends to show that irrigation alone, affords the means of really getting rid of the chief noxious effects.

The alternative offered by the Commissioners does not come to us with sufficient evidence to be at once preferred, and more especially as to the use and advantage of the "sludge." The chief difficulty as to the direct irrigation would be,—What could be done with the sewage in time of frost?

In the Appendix to Report of the Government Referees, of last year, we find the following:—

"Estimate of the cost which it would be necessary to incur for the daily distribution of the ordinary daily flow of the metropolitan sewage.

Prime cost of engines, mains, and reservoirs for conveying the sewage an average distance of fifteen miles	£4,642,500
The formation of 100,000 acres of land into water-meadow, at a cost, including distributing mains and water-courses	1,200,000
Capitalisation of annual working expenses of foregoing, horse-power alone, say 78,200*l.* at twenty years' purchase	1,564,000
	£7,406,500

Total cost, 7,406,500*l.* or 74*l.* per acre on 100,000 acres, distributed in twenty-three separate lots.

In this estimate no provision is made for the daily management required by a system of irrigation so extensive."

Taking merely the interest on 74*l.* Dr. Hofmann and Mr. Witt are inclined to put the annual expense of irrigating an acre of land (without management) at 4*l.* an acre, in round numbers; and on their estimate of 1,100,000*l.* as about the value of the fertilizing constituents of sewage, each acre would receive an amount of constituents equal to those contained in one ton of guano, of a money value of 11*l.*—leaving thus "a profit of 7*l.* per acre, or a return of 175*l.* per cent. of the cost." The calculation of course supposes, not merely that the 100,000 acres would be sufficient, but that difficulties from the nature of the ground, or prejudices of landowners, would be overcome.

It would, then, appear that on the estimate of the Referees, of 95,000,000 gallons, or about 431,850 tons as stated by Dr. Hofmann and Mr. Witt, as the quantity of sewage flowing into the river in a day, a quantity slightly exceeding 4¼ tons would have to be absorbed by each acre of ground. In the case of the sewage of Rugby, only about 1¼ ton per day would seem to be distributed,—but it is admitted in that case, that a much greater quantity per acre could be taken up with advantage to the land, as well as economy in distribution. But, the Craigentinny meadows, on the statements before us, must receive as much as 23 tons per acre per day. No disadvantage results from the distribution of a quantity so much in excess of what is supposed as having to be got rid of in London; but at least four crops of grass annually are procured; and now, the Commissioners inform us these are sold at an average of from 20*l.* to 30*l.* per imperial acre. Indeed, in the meadows of the adjoining estate of Lochend, nine crops once were taken off in a single year. As bearing on the question of difficulty which might be caused in the case of London by interruption of the irrigation, it is distinctly stated that the irrigation at Edinburgh goes on incessantly, except on Sundays, night and day, winter and summer, all the year round; and, as to the expense of the work, besides the superintendence, it would appear that two men can get through the irrigation of about 210 Scotch acres, those which are supplied by gravitation, in three weeks or a month, and of 50 acres of high land, to which the sewage is raised, in about ten days.

It may be well to say that in some towns, there might be advantages in a diverging system of sewerage, with outfalls to the country, in the matter of sewer-construction. The system would extend with the population, without requiring that main sewers should be taken up and relaid to serve for a larger volume of sewage than could be emitted at the outlet of original construction. Lengths of main sewer could be gradually added,—enlarged if required; and the branch sewers or pipes would ramify from them. Of course this supposes levels to be favourable; but, with contrivance, the particular advantage from the divergence, could be found even in districts of London. And the system would meet the views of those who contend for providing many separate outfalls to mitigate nuisance.

It is due to the authors of schemes which were laid before the Government Referees, or were prepared previously, to allude to their suggestion of the arrangement adopted by the Commissioners,—who themselves mention the priority of a proposal by Mr. Gibbs, C.E.

Although we could have wished that the investigations of the Commissioners had extended further towards the settlement of the question as to direct application, and had been

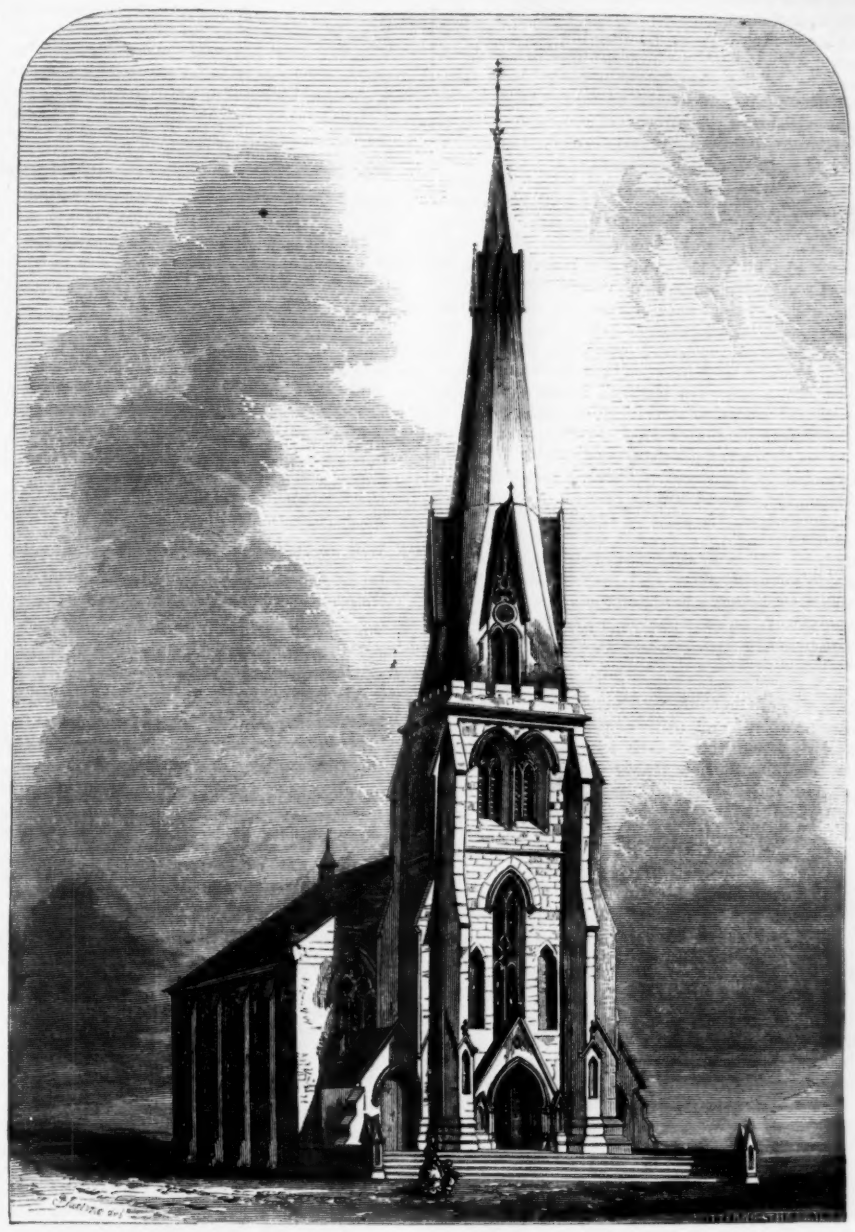
so far conclusive and definite as to avoid any "it is said" on such a point as the important one whether or not the fish at Leicester "have returned to their old haunts," we regard the Report, on the whole, as the nearest approach that has yet been made to the discovery of a measure to remedy the evils that exist.

FRENCH BUILDING MATERIALS AND FRENCH WORKMEN.

FRANCE is famous for the number and excellence of its quarries of marbles and stones for building, and supplies Paris as well as the provincial cities with large quantities. A great part of old Paris and much of the new were built from the immense quarries of Montmartre, and out of what is now called the Catacombs. The wealth of some of them in the north has been exhausted. Many are in the environs of the capital which they have embellished: the vast extent and prodigious height of the subterranean chambers to which the industry of ages has reduced them, is worth a visit from the traveller, as also the depôts of stone kept by the contractors near the quarries. In passing along the busy quays of the Seine, one may continually see the huge cranes at work, unloading, by the aid of labourers, barges of great blocks of marble, or the hardest and strongest stone, for the construction of public edifices, or for the paving of the streets. They come from different parts of the country, and are of all sorts, as different one from the other as the soil of the localities from which they are taken. The proper time for extracting them is the summer, and they should be exposed to the air two years before being worked. Very extensive lists of the native beds and names of marbles, with tables of their specific weight, as well as granite, porphyry, and alabaster, have been given in works treating on the art of building; but we shall confine ourselves to the selection of a few. The marble of Rauce is very common. Columns of it are seen in the Church of the Sorbonne. It is got from the Hainaut, and is of a dull red colour, with veins, and white and blue spots. The marble of Roquebrue, in Languedoc, and the marble of Savoy, are somewhat similar, and much used. The marble of Serancolin, taken from the Aure valley, in the Pyrenees, is green, yellow, and blood-red, transparent in some places, like agate. We see it employed in cornices and bases of pedestals, in the great gallery of Versailles. The name of *pierre de liais* does not indicate a locality, but a certain kind of stone, which is in general full, fine, and easy to work. It is taken from the neighbouring quarries of St. Jacques, from a mountain near St. Leu sur l'Oise,, in the plains of Creteil, near Paris. It is adapted to balustrades, capitals, and columns. Any one at all acquainted with the luxury and splendour that appeared in the courts of France, and which were so indebted to it for the precious productions which the earth yielded, afterwards moulded into the most exquisite forms, which could charm the sense or gratify the taste, knows how the judicious use of these coloured marbles and glittering stones, chiselled into the most graceful arabesques, added to all that the fairy skill of a Bernard or Cellini could do, produced a magnificent effect in the interior, furniture, and decoration of the royal houses, in those times when kings loved to patronise art and have artists of all countries around their thrones; and also in many a *salon*, now extinct, but once of great literary and artistic celebrity. Marbles from foreign countries have sometimes been preferred, but the buildings which they have adorned may not have been more beautiful, and have cost much more than those got from the home-quarries; while some of the latter receive as fine a polish as any other foreign marbles. In works that are intended to show their superiority over all others, in respect of good material and solidity of construction, expense is not an obstacle. But buildings of the first rank have been constructed from the neighbouring quarries. The cement used in the recent Government works in Paris was from the quarries of Pouilly. Perhaps there is no other country in the world so well stored, so opulent, with such a variety of good stone and marble as France, excepting perhaps Italy or Greece; and no other nation which has a better supply of materials, readier means of building, and more perfect knowledge of using them than the French. Judgment and experience of course are required in the selection. Few stones unite all the essential qualities of stones; but it is interesting to learn from what quarries celebrated edifices have been built, to examine the state in which they are found, and the power with which they have resisted the ravages of time. Both the marble and the stone for masonry, and woods for carpentry, are fit or unfit for certain purposes, according to the degree or mixture of the elements that constitute their weight, their grain and texture, their hardness, their capacity to resist moisture, their not burning in the event of a fire occurring; and it is the business of an architect to know what he can most successfully do with these materials of different properties, never attempting to do with one what can only in the nature of things be done with another, and achieving the best effect and the utmost strength with the greatest economy. The calcareous or building stones are very plentiful in France. That which is called the rock of St. Cloud is used in Paris, and its conveyance to the quays of the Seine is easy and direct. The isolated columns which decorate the *façade* of the court of the Louvre and the Tuileries, overlooking the garden, are executed with this stone. The Château-Landon stone, which can be fetched out of the quarry three feet high above its bed, has been employed in the Nemours bridge: it cuts easily with the chisel, and makes good joints. It is used in the pavement of Sainte-Geneviève, that masterpiece of Soufflot, in the facing of the Arch of Triumph, Champs-Elysées; at Château-d'Eau; and Pont-Neuf, one of the most curious bridges in the world, designed by Ducerceau. Thus the modern French, like the ancient architects, in ministering to the pomp and gratification of the Roman emperors, employed block marble in the most sumptuous edifices, in their public momuments, in their churches, triumphal arches, and palaces: like the ancients, they used white marble for the entablatures, capitals, and bases of their columns, for their bas-reliefs or sculptured ornaments; and, like them, employed coloured marbles for the columns and compartments which decorate the interior of their edifices, and with the chips and fragments spread on their spacious area a rich mosaic pavement. The French seem to have wished to imitate the ancients in other respects. In the revival of the arts every country more or less gradually adopted classical principles and classical thoughts. The ancient temples are frequently mentioned for the large stones of which they consisted. It is well known also that the cornice in Perrault's colonnade was formed of a single stone taken from the quarries of Meudon, near Paris: being sawn, like a piece of wood, into two pieces, each had 54 feet in length, 8 in width, and 18 inches only in thickness. The machine used to raise and place these stones in their beds was the invention of a carpenter, named Ponce Cliquin; and Claude gives a plan and sketch of it in his last edition of Vitruvius. Israel Sylvestre likewise, in his "Vues du Louvre," illustrates the much-talked-of scaffolding erected on this occasion. The writer of this article remembers with pleasure the intense curiosity and excitement that prevailed in Paris, when Lebas raised, by means of his skilfully-devised and well-concerted plan, the noble obelisk of Luxor, in the centre of the Place de la Concorde, amidst the bravoes and the applauses of thousands. Nothing can be said to detract from or depreciate the merit of M. Lebas, but the principle adopted by him was the same as that of the Egyptians in removing and setting up their colossal monoliths, a ceremony with them which they took good care, by means of the chisel and colours, to perpetuate for posterity on their everlasting walls. As there were things among that ancient race regarded by their posterity as crude and infantine, because associated with such very remote times, it is well to remember that, after all, without alluding to the true and beautiful science of mathematics, for which they were never surpassed, the character this extraordinary people impressed on their architecture and sculpture by a few sublime thoughts and simple lines, is to the moderns the perfection and the type of art. The common but useful workman, whose glory is the careful, skilled labour he bestows on the design of the architect, seems to follow, but not blindly, the old paths and traces marked out by these his predecessors. Here he is not such a drudge in the building as may be imagined: he is often superior to his work, and master of it. He is no labourer with a hod of bricks: that is as rare to see, as, among birds, was once a black swan: such a phenomenon is unknown here. They avoid in general carrying too heavy weights on the head after the fashion of our London porters, who do so to their injury very often: that is not their custom of bearing weights at all; but their movables are placed in a frame adjusted to their back, and supported by straps round their body and over their shoulders, the object being to relieve and lessen the weight as much as possible. The style adopted is exactly like that used among the ancients, as we learn by figures of water-carriers and labourers represented on their monuments. Praise, however, is indeed due to people whose physical sensibility—a productive cause of some of the best inventions, reaches certain ends by employing means so exact and just that it is not possible to imagine better. The French artists are inventive, careful, and ingenious. It appears that at the most important periods in their past history, their originality, their skill, and their diligence enabled them to carry away the great prizes of architecture from the Italians who competed with them;—that their designs were preferred. This was the case in the contested works at Fontainebleau and in the competition for a façade or wing of the Louvre. And what renders them so expert, so proverbial in improving, in bringing about what others before them have insufficiently done, to a greater degree of perfection or usefulness; what renders them so fond of refining, of modifying; so ready to execute well what they conceive, is the various applications to useful purposes of the mechanical powers which are constantly before their eyes, and which they are in the habit of managing, explaining, or examining. Objects of beautiful and practical construction, or of admirable contrivance, which once possess the imagination, grow strong in the mind by the habit of contemplation. Visitors cannot but think that the number of excellent institutions open, and free of access to them, containing respectively a collection of medals; moneys of all ages and countries; specimens of materials; models of all kinds of machinery; museums of natural history; cabinets of curiosities; monuments of their country; libraries to read; archives to consult, tend considerably to strengthen and guide their spirit of observation, and increase their love of literature and the arts. And more than this. There can be no doubt that the remarkable care and preservation which are taken of the national monuments in this centre of civilisation, direct the attention of the great numbers of workmen and artificers who are employed, when the fine weather sets in, in cleansing, scraping, running fresh paint in the joints of the stone-work,—which operations are not suited to the edifices of every climate, and which anywhere require great precaution, especially in the finer and more delicate parts of them;—we say that the renovation which the public monuments in Paris thus undergo must naturally incite the masons and workmen employed upon them to give their due regard and best services to works so much cherished by the State and so much admired by the public. The government shows it is interested in the highest degree in preserving them; and, therefore, it has founded an official committee, charged with similar functions to those which were confided in Rome to the ediles, and commissioned to look after the roads and public edifices, to report upon them and watch over their preservation. An official committee also (*comité des arts*) was founded by government for another similar purpose, but more specially that of repairing and restoring the monuments of the Middle Ages that had been ruined or dilapidated, and in respect of which they inculcate the necessity of certain principles to be guided by in the matter of restoratives: namely, they think it is better to strengthen and consolidate than to repair, better to repair than restore, better to restore than embellish, but in any case nothing must be suppressed. It is their opinion also, as architects have the propensity to alter or to add to the edifices they are commissioned to restore, under the pretext of fulfilling the first intentions or completing them, that they ought not to be permitted to correct even irregularities, nor to alter the dominant lines, because the deviations, or the absence of symmetry, are historical facts full of interest, and often furnish archæological characters capable of marking an epoch, a school, a symbolic idea. There are other associations headed by a committee composed of eminent men, of one of which the Emperor is president, for diffusing art, for making known discoveries and improvements, and promoting the interests of artists, inventors, and artisans; and these must have a most beneficial influence on the working classes. It is very instructive to observe some of the better qualities of a part of the French working population. The mechanical powers with which they must be thoroughly acquainted, on account of using them in their occupations, they sometimes discard as if such things had grown obsolete: they dispense with them on some occasions in a most independent manner. It is not unusual for the greater internal bulk of a house to be constructed without any tackle or scaffolding to speak of: a very little is erected, which is needed; and by the workmen reclining on ladders and raising stones of a size easily lifted, from hand to hand, the house is built very quickly. There is a

man, of course, at the foot of a ladder, to supply the stones. Suspended scaffoldings, capable of being shifted at will, for the purpose of painting or compoing the elevation of a building or interior of a church are often seen on the Continent. It is a custom with them when they erect a scaffolding before any building in progress in the street or crowded thoroughfare, to fix the standard poles on the pavement in a bed of strong mortar, heaped round their ends, about 2 feet in circumference, and 2 feet in height, as their *point-d'appui*. The earth is not dug to receive the standards, nor the granite or bitumen removed (as is the case in London), except for new buildings or some other cause. In the course of the construction of a building, and whilst the scaffolding is up, the blocks of stone (*bossages*) are left with a projection suited to their position, or to the nature of the mouldings or ornaments intended to be chiselled out of them; and it is pleasing to see those blank parts of the masonry, with which the building is faced, rapidly receiving those graceful forms which the practised hand of the sculptor gives them. French masons of the present day, and modern masons of all countries, may be reminded of the particular care and patience the ancient constructors took in order to dress well and adjust the beds and the joints of blocks of marble or stones, so that they should join together in all the points of their surfaces, and form masses as solid and as stable as if they had been one single block, and incapable of any injury from pressure, or of separation from the trying changes of temperature. The essential conditions of the solidity of masonry or brickwork in walls and habitions destined to promote private comfort and convenience, as well as those designed for public utility, should be sufficient of themselves to prevent those vices in construction that arise from bad, ill-seasoned, or unsound materials, and the bad way of disposing of them. The old mortar that united the stone or brick in the ruins of ancient Rome; the old mortar used by the Romans in many of the castles that they built in England; and the mortar in some of our fine old parish churches, is so strong as to be difficult to break, and puts the best iron tools to proof. Their practice in general was to build with precaution, to test and determine on nothing without deliberation, to *hasten slowly*, to ensure stability; hence their plan of tempering their mortar, and laying it on the beds and between the joints as thin as possible; of not using the lime at the same time it was slaked, but allowing it for some months to putrefy, and to produce a sediment, which, joined with stones or brick, made an inseparable union. Many of your readers may have gazed on and perhaps directed the pulling down of some old walls, which may have excited a wonder in their minds that they could have lasted so long, half the substance being sand and dust. The bricks used in Paris come from the department of Yonne, known under the name of the Bourgogne brick; from Montereau and Salin, Seine and Marne department; from Sarcelles about nine miles from Paris, in the department of Seine and Oise. Bricks are fabricated also in Paris. The French have also executed beautiful façades, in brickwork, and some clever compositions in stucco. In Paris, where plaster, manufactured from gypsum, which is found in great abundance, is much in vogue, and so much demanded, it is much more convenient for the construction of ordinary houses than the mortar, because it acquires the solidity of which it is susceptible: many years are required for mortar, which consolidates with the stones of the building, whilst plaster weakens it: the solidity of constructions in mortar is always going on augmenting; but on the contrary, works in plaster go on always diminishing and deteriorating. When these last are exposed to a severe frost or a burning heat, they require to be renewed or repaired at the end of about twenty years. The works of mortar acquire by time a consistency more solid by the union of their parts; whilst those of plaster change their form in increasing their volume by expansion. It is for this reason that in cities where they have been built in mortar, the edifices have an appearance of solidity that does not belong to those which are executed in plaster. The walls faced with masonry in mortar preserve themselves right and perpendicular, but those in plaster have lost their essential beauty, although they were originally built as upright as those in mortar. In modern buildings, the beds and joints of the stonework and brickwork are often neglected, and badly made, an evil arising sometimes from their being done by contract, sometimes from want of superintendence. But happily from the examples of good stonework and brickwork, seen in most modern cities, where proprietors and architects are jealous of their reputation, there are still excellent masons and bricklayers amongst us to do honour to their craft, and to embellish our streets. A most interesting work for the student on the science and materials for construction, is by Jean Rondelet, in his "*Traité de l'Art de Batir.*" On the subject of lime, he says, that there is found in the neighbourhood of Metz, a very hard, strong stone, from which they make lime, of a superior quality. This lime, newly extinguished, and mixed with gravel, forms a *béton*, or kind of concrete, of which the consistency is so great, that vaults are constructed with it without bricks or tiles, and that these vaults become in time a single piece as hard as stone itself. The best lime is sent to Paris from Senlis and from Champigny. The best stone for making lime is the hardest, for the lime is then more binding and glutinous. That which is made from marble, or from stone of a similar nature, is wonderfully good. The mortar should be well tempered, and in this and in the laying of it, in preparing and purifying the lime, both English and French builders and masons may, as we have already said, derive a useful lesson from the ancient Romans. Another excellent practice, which the moderns ought never to forget, was their care and precaution in making the foundations of their edifices large and deep, to let the superstructure raised on them rest and settle a good while before proceeding further.

F. LUSH.



ST. GEORGE'S CHURCH, SYDNEY.—MR. W. B. FIELD, ARCHITECT.

ST. GEORGE'S CHURCH, SYDNEY.

THE architectural progress of the colonies must ever be a matter of interest to our readers. In reply to an advertisement of a public competition for sets of designs for a proposed new Presbyterian church, to be called St. George's Church, Sydney, under the pastoral charge of the Rev. Dr. Mackay, twelve sets of designs were submitted to the committee in the middle of August last, and after consideration the committee selected two of these sets, which proved to be those of Mr. W. B. Field and Mr. T. Rowe: it was then determined to carry out those of Mr. Field; and Mr. Field and Mr. Rowe were jointly appointed to carry it into execution, and to these two gentlemen the first and second premiums were then awarded. The requisite working drawings and specifications having been prepared, tenders were invited from contractors by advertisement, and the tender of Mr. Thomas Alston, formerly of Glasgow, and the contractor for many of the largest public works in Sydney, was accepted.

Mr. Alston commenced his work on Monday, 19th October, and the building is now midway up. The style adopted purports to be that known as the Decorated, and the general arrangement of the building is as follows:—

A flight of six broad steps, each 50 feet long, leads to a platform 4 feet above the level of the pavement of Castlereagh-street, on which the church will stand; in the centre, in front, is the tower with spire, forming, with its large doorway, the central entrance; and which is flanked, on either side, by an entrance porch. The interior of the

tower is 15 feet square, and each porch is 8 feet square; and each communicating with the tower by a large archway, in all forming spacious entrance lobbies to the church. The internal dimensions of the church are, length, 76·0 feet, width 45·6 feet, and height 25 feet. All the passages or aisles in the interior of the church will be 4 feet wide, and will be paved with ornamental tiles; the seats, with bench ends, are raised one step from the aisles, and are all 2 feet 8 inches from centre of back to centre of back; and each adult will be allowed 1 foot 6 inches in length of seat, or making the accommodation of ground-floor 620 adults; the gallery accommodation is calculated on the same data, and will contain 300 adults besides seats for children; the front of the gallery will be of polished cedar, supported on carved cedar columns, and spandrils, and will be approached by a double cedar staircase in tower and by two doorways through tower wall. The pulpit and precentor's desk will stand on a platform 18 feet long and 12 feet wide, and 2 feet 6 inches above the floor of the church; the body of the pulpit will stand on twisted columns, with foliage capitals, and will be framed of colonial or ornamental woods, with a sounding-board over, and with winding staircases on each side. The windows on each side of the pulpit will be of mosaic coloured glass, and stained glass will be introduced into the borders of all the other windows throughout the church. The ceiling will be a flat panelled deal ceiling, divided by large and small moulded ribs, and which will be relieved by polychromatic colouring in diaper, introducing the motto of the Church of Scotland "*Nec tamen consumetatur*," and other appropriate legends in scrolls. From the church two doorways open, one into the Session House being a room of 25 feet long and 12 feet wide, and the other into the vestry 12 feet long and 10 feet wide, communicating together, and both having yards.

The ventilation will be effected by means of thirty-six cast-iron ventilating gratings, 6 inches in diameter, let into the wall of the church beneath the floor joists, the joists themselves being 4 feet above the ground, and the riser of step being perforated by quatrefoils throughout. The ceiling is so arranged as to allow an open space between all mouldings, and between the panels and mouldings, so as to allow a free egress of all heated and vitiated air into the roof. On the ridges of the roof are four ventilating louvre cowls, so as again to allow this vitiated air to escape into the open atmosphere, fresh air being freely admitted by the air-grating below the floor.

The exterior of tower is 21 feet square, independently of the buttresses; the height of the platform on which the tower stands is 4 feet, the height of tower to top of cornice is 62 feet, the height of spire to top of stone finial is 72 feet, and the height of vane is 8 feet, making in all 146 feet. If not too late, we would suggest a re-arrangement of the windows and porch on each side of the tower.

The cost, including site, will be 10,000*l*. A considerable portion of this is provided, but money is still wanted to enable the committee properly to complete their work.

DAY THOUGHTS AMONG THE STATUES.

Oft in St. Stephen's Hall I love to stroll,
Musing on monuments to names undying—
On England's "men of might, her grand in soul"—
Yet oft some passing member sets me sighing—
"Look here, upon this picture, and on this—"
Wits! would ye have a contrast?—here it is.

Hampden's sublime—he looks the man who stood
E'en in the "last resort of kings," unshrinking.
Art must have labour'd when in happiest mood.
Grand is the work that sets us grandly thinking.
Who can, unmoved, the patriot's form pass by?—
To me, this statue speaks a history.

But, mark how rudely perch'd in Gothic niche,
That doll-like king, the patriot all but shoulders:
Hardly such dwarfs the giant's breast could reach.
A contrast so absurd to all beholders—
At least, if sentimental—thoughts must bring
More flattering to the patriot than the king.

Falkland, my inmost soul less deeply moves,
Though great his fame, and great his sculptor's merits,
For all by art accomplish'd merely proves
He was a gentleman—and out of spirits—
And such there were who grieved with equal force,
Whether a cause was ruin'd—or a horse.

Of art's grand monuments of men—to me—
Hampden's among the grandest—ay, including
Great Michael's glorious work—the Medici—
Who in his Florence sits, o'er vengeance brooding.
Gods, dreams of art, let those admire who can:
Give me what moves man's sympathy—a man.

What is "the statue that enchants the world?"
Ideal form—æsthetic senses charming;
But—though perchance some schoolboy's lip has curl'd—
Waking no sympathy—no bosom warming:
As for that pink of gods, the famed Apollo,
Why, in his prime, D'Orsay had beat him hollow.

Hyde's well-carved features all respect command:
On "learned Selden," contemplation lingers:—
Although too much that pose, that outstretch'd hand,
Suggest the stage—I long to rap his fingers.
Somers is fine; but art has play'd sad rigs
With Mansfield, as with Chatham—burn their wigs!

Here Walpole struts;—if art would thus portray
The genius of corruption—art may glory;
But brighter names invite my rhymes to-day—
The illustrious Whig, and more illustrious Tory.
How lean that Tory! and that Whig how fat!
Shade of fat-loving Cæsar! think of that.

Pitt was not born for art—and critics own
That "lean and hungry look" is true to nature;
And art, when working on a form well known,
Must soften, not destroy, so mark'd a feature.
Fine subjects, Fox and Pitt, for artists' easels!
What can art do with men like pigs or weasels?

Yet art may boast—for here Pitt takes his stand,
Improved—yet Pitt—to taunts from Fox replying:
He looks the man who would the world command;
But now, when fortune frowns, the world defying;
Ready, with nose in th'air, at words uncivil,
To send Fox, foes, and rivals, to the devil.

Ah! hapless sculptor! doom'd to mould Charles Fox,
Well might you mourn your fate with sighs pathetic.
We know Adonis was not a prize ox:
We know the adipose is not æsthetic;
But has art laws such Chinese truth demanding?
Will art own legs that pass all understanding?

Truth for your guide you must have sworn to take
Th'ideal—as a will-o'-the-wisp—excluding;
But were you bound G—d's image thus to make
So very conscientiously like pudding?
Must art all mercy, like the Jew, renounce?
Could you not bate the pound of flesh—one ounce?

Oh! for a cloak, or—if art's wardrobe 's bare—
Oh! for a blanket, from the load oppressing
That ill-used invalid in Bloomsbury-square:
Fox there, as here, would find the change a blessing.
So strange, that monument, some critics doubt
Whether it was raised to honour Fox or gout.

Men of the Fox club! do ye nought but dine?
Are ye quite reckless of your idol's glory?
Whigs! who once deem'd his eloquence divine,
Does not his shade, to hide his legs, implore ye?
Who that heard Fox could dream so soon thereafter,
Fox "on his legs" would raise but "roars of laughter?"

Eloquent Edmund!—ay, and handsome, too—
Art found in you a model worth the showing:
You seem preparing, like the Burke we knew,
To set your famous "dinner-bell" a-going:—
I'm off—that Grattan sha'n't delay my journey,
His looks repel—I hate a sharp attorney.

Homeward I stroll—but ever at one spot
A monster startles me—alas! poor Canning!—
Passing—howe'er absorb'd it matters not—
Hammering at rhymes, or airy castles planning—
I start as though I'd run against a post
Or saw—egad! I wish 'twere but a ghost.

Gods! how I long some sculptors' pates to maul!
What cumbrous blankets half their statues muffle!
"Odious! in woollen!"—why, the thought must all
Aspirants to art's honours sorely ruffle,
As Pope's Narcissa somewhat naively said—
"One would not, sure, be frightful when one's dead."

Statesmen! who hope posterity will view
Your graven images the land adorning—
Names I won't mention—but to some of you
Poor Canning's history should prove a warning;
Yet Heaven forbid! your fate should be—like his—
To die a victim—and to rise—a quiz.

JENNER'S STATUE.

SPREAD OF SMALL-POX.

THE sitting figure of Jenner, executed by Mr. Calder Marshall, R.A., and erected in Trafalgar-square, is esteemed a good likeness by the few who recollect him. The pose is easy and the execution good. On the occasion of its inauguration, when Dr. Conolly sketched eloquently the life of Jenner, and Mr. Pettigrew and Lord Lansdowne spoke admirably, his Royal Highness the Prince Consort remarked, that while we ought to feel thankful for the large amount of life which has been saved in all parts of the civilized world by the exertions of this benefactor, it is deeply to be regretted that in this country five thousand lives are still lost annually by this scourge.—If so many deaths occur in spite of improved medical treatment, the number of cases of small-pox must be very large. Formerly as dangerous in the dwellings of the affluent as in the houses of the poor, small-pox has now been driven from the former. It still commits ravages in Bermondsey, in parts of the Borough, and other poor metropolitan districts. Inquiry shows that, although vaccination is performed gratis in every parish, and also in most of the hospitals, thousands of children are neglected in this respect. Some parents object in consequence of a fear that impurities of the blood are spread by this means, and others say that "it is wicked to interfere with the ways of Providence." It must be admitted that great care should be taken by those who have charge of the vaccination of the poor; and, considering that so many deaths are caused by this preventible complaint, it might be well if the fine for neglect by those having charge of children were occasionally enforced.

Mr. Monsell, in the House of Commons the other day, asked the vice-president of the Privy Council Committee whether his attention had been called to the fact that out of 1,636 deaths reported to have taken place from all causes in the quarter ending March 31, 1858, at Burton-on-Trent, Sheffield, and Merthyr Tydfil, 419 were reported to have been caused by small-pox; and whether he proposed to introduce any amendment of the Vaccination Act.

Mr. Adderly said that it was unfortunately true that this great mortality had been caused by small-pox. From all the information he had been able to gather on the subject, he believed that the prevalence of small-pox was owing as much to bad vaccination as to neglect of vaccination; indeed, the state of the vaccination throughout the kingdom was sufficient to create great alarm. It had engaged his attention, and he had given much consideration to the question in what manner it was desirable to amend the Act.

The circumstance that in certain districts 419 (one quarter, or twenty-five per cent.) out of 1,636 deaths have arisen from small-pox—a disease which has been shown to be preventible—is a circumstance which requires great and immediate attention; for the large per-centage of deaths above alluded to are but a portion of 5,000 which take place in this country annually; and it is to be feared that, if proper means are not taken, the number which is at present so large will soon be increased.

A correspondent, writing on the unsatisfactory character of most of our portrait statues, says,—The fact is, that the practice of placing portrait statues in the open air is one which we have borrowed wholesale from a country and an age very different from our own; and we ought to know that such a proceeding is not likely to produce pleasing results. In our climate, anything which suggests the idea of being exposed to the open air night and day all the year round has an uncomfortable effect; and thus the natural feelings are set against these works to begin with.

Further, many of our statues are open to another objection, by which, I believe, the public is unconsciously influenced: I refer to the preposterous costume in which they are disguised. It appears to me incontrovertible that a man's dress is part of himself for all purposes of portraiture; and that to represent an Englishman of the nineteenth century in the dress of a Roman senator, or in a fancy suit of slippers and a blanket, is to give us no portrait of him at all. "But," it is said, "modern dress is so unbecoming, so unpicturesque, so unstatuesque." I do not altogether assent to this, believing that a good deal of this contempt is only what is bred by familiarity, and that a good statue in modern dress may be made by a good artist; but if it were true that modern dress is of such a nature, that a good statue in it is an impossibility, that would be no reason for giving portraits of honest John Bulls in togas and sandals: the only legitimate conclusion would be that we must give up attempting to make portrait statues at all.

The critics have much to answer for in this matter, for they have bewildered the public judgment in two ways: they have ordered it to admire what is absurd, and to ridicule what is just and natural. B. R.

UNION OF ART AND LITERATURE.

PAINTERS, both ancient and modern, have, generally speaking, not relied sufficiently on the power of the pencil to create forms which would appeal to the mind as strongly as the written descriptions of poets and historians. If we glance, for instance, at the glorious works of Michelangelo, and other disciples of that great school, or at the gorgeous pictures of Rubens or Titian, we shall find them chiefly to consist of representations described in Scripture, or pictorial delineations of the traditions connected with the heathen mythology. While remarking this, it must be admitted that it is a great power to be able to embody and place in forms like life, with all the charms of colour, and light, and shade, the rare fancies of such poets as Shakspeare, Chaucer, Spenser, Milton, and others; and it should also be remembered that painting, being an imitative art, in some measure requires for a foundation subjects which are well known, and appreciated by, the multitude. Still it is a fact worth notice that the poet—the originator of ideas—forms, by his rich fancy, scenes which, before he expressed them in words, were equally as much unknown as the forms which are now rendered so familiar to us by the efforts of the painters and sculptors of the last three or four centuries.

It is not the object of this paper to undervalue the works of the great artists of the various schools who have shewn so much mental ability in their conception, and so much mechaneal skill in their execution; but rather to convey the idea that painters, who were also true poets, have not

sufficiently employed the pictorial art for the purpose of putting forth original ideas which would, in the same manner as a book, delight and teach all beholders.

Although there is much poetry in the marvellous light and shadow of pictures by Rembrandt—some glowing with light and harmony, and others equally harmonious, in which "the light but counterfeits a gloom," and which convey materials for poems or imaginative descriptions,—other pictures, of about the same period, have not such qualities; for the fairs, drinking-scenes, and elaborately-wrought interiors of even such masters as Teniers and Ostade, have not the merit of being original embodiments of descriptions which appeal to the higher senses, but are (wonderful it is true, but, at the same time) very matter-of-fact delineations of scenes which are often uninstructive and unpleasant.

In the English school of art Sir Joshua Reynolds, who may with justice be considered its founder, displays but little originality of thought. His "Puck the Fairy," "The Infant Hercules," "The Strawberry Girl," and some of this artist's finest works, are rather to be considered sketches from nature, which have suggested certain arrangements, than poetical conceptions, and are more remarkable for the breadth, richness, and depth of colour, than for the display of the powers of the imagination.

The paintings of Gainsborough, Richard Wilson, and others, will come readily to the memory; but, in order to show the capabilities of art, let us examine the series of designs of the "Dance of Death," and some of the other efforts of Albert Durer, which convey a history that without a word of description, can, after the lapse of two centuries, be understood by the meanest capacity, and will for centuries to come clearly tell their own story to both the most intellectual and the most uneducated. In the same way our own Hogarth has displayed the powers of satire, taught moral lessons, and shown histories on his canvas which are as readily understood by the multitude as the most masterly works of those teachers who have used the pen to describe the passions and frailties of humanity. No writer, past or present, has more clearly shown the folly and danger of vice than Hogarth has done in these original pictures.

In glancing at the artistic works of more recent times, it will be found that a large proportion of the figure subjects consist of compositions illustrative of poems and other literary performances. There are, however, many pictures which have the merit of both mental and artistic qualities; for instance, Landseer's, in those mountain scenes of rocks, lakes, and mists, enlivened by noble deer and other wild inhabitants. "The Departure of Highland Drovers for the South," "The Blood-Hound waiting at the closed Door,"* and other productions of this great English artist, have distinct ideas founded on nature, which have all the power of the writings of Sir Walter Scott and others, who have been gifted with poetic powers of description.

In landscape painting, "The Upas Tree," by Danby, which, by a wonderful faculty of delineation, gives such a terrible idea of poisonous atmosphere in a deathly valley, deeply affects the mind: so does the "Solitude," by the same artist, in which is shown the deep unruffled pool—the torn letter slowly sailing away into the dark distance—the melancholy drooping eaves and branches, the weeds connected with spiders' webs: so still is everything, that you can fancy no sound except the suppressed sobs of the disconsolate maiden, who seems to be so earnestly watching the vanishing of her last hope. Other pictures by this artist might be usefully studied.

It is not our purpose to endeavour to place the sister arts of painting and poetry, one higher than another, but rather to place each in its true and honourable position; and, while admiring greatly the graphic descriptions of landscape scenes, by Scott, such as—

> "And though the sun was on the hill,
> In that deep dell 'twas twilight still;"

and the innumerable printed pictures which are presented in his poems and novels,—

> "The rainbow's lovely form,
> Evanishing beneath the storm;"

and like lines by Robert Burns, and the splendid word painting of Thompson and Gray,—we must claim that equally as much power of the imagination and originality are exhibited in the works of Turner, which will for long be a glory to the British School of Art.

We might carry these comparisons to a much greater length, but our object at present is not so much to do this as to consider the advantages which must result from a more close connection between the workers in the paths of literature and art than at present exists; and also strongly to advocate the necessity, even in the higher classes of society, of making art instruction a more important branch of education than it is at present. There has, no doubt, been much improvement in this respect lately; but, notwithstanding, a great deal remains to be done; and yet the day may not be far distant when, by a combination of the skill of the pen and pencil in the same individual, important results may be effected. Most persons who have seen the characteristic, humourous, yet slight sketches of the late Tom Hood, will agree that it was only the want of mechanical skill which prevented him from having been a first-rate artist. His want of skill of hand alone prevented him from completing these works in such a manner that they might be appreciated by the multitude. At the last Royal Academy dinner, Mr. Thackeray said,—"Permit me to remark, that had it not been for the direct act of my friend who has just sat down (Mr. Dickens), I should, most likely, never have been included in the toast you have been pleased to drink, and I should have tried to be a painter or designer of pictures. That was the object of my early ambition; and I can remember when Mr. Dickens was a very young man, and had commenced delighting the world with some charming humourous works, of which I cannot mention the names, but which were coloured light green, and came out once a month,—this young man wanted an artist to illustrate his writings; and I recollect walking up to his chambers with two or three drawings in my hand, which, strange to say, he did not find suitable. But for this unfortunate blight which came over my artistical existence, it would have been my pride and my pleasure to have endeavoured one day to find a place on these walls for one of my performances. This disappointment caused me to direct my attention to a different walk of art, and now I can only hope to be translated to those walls, as I have been, thanks to my talented friend Mr. Egg."

We have little doubt that if the admirable author of "Vanity Fair" (who, by the way, is frightening off some of his warmest admirers by his last two numbers of the "Virginians") had applied himself to master the difficulties which are usually to be conquered in acquiring the principles and mechanism of pictorial art, we would have had works of rare excellence from his hands.

The sketches of given subjects produced by the "Sketching Club" in a very short space of time, at their meetings show the large amount of imagination and poetic fancy which is possessed by this society of some of our best artists; and when we remember the suggestive ideas of the late Douglas Jerrold, and of others engaged in literature who are still spared to us, we cannot but feel regret that clubs consisting of both literary men and artists have not been more generally established. The meeting together of the men of the pen and the pencil to express in their various ways certain passions and ideas, would cause each the better to appreciate the other's art, and would also be the means of striking out valuable thoughts, which but from such circumstances might be lost to the community.

In the Department of Natural History we have the excellent example of the Bewicks and others to show the great advantage of the union of literature and art, notwithstanding in the scientific world, generally speaking, there is a great want of this combination—in anatomy and surgery, for instance. But few attempts have been made by professors personally to illustrate their descriptions; and artists, many of them possessing great talent in this way, have been employed for the purpose; and although the accuracy of these delineations may be remarkable, it is likely that many graphic sketches which would simplify the description, are lost by the party who thoroughly understands his subject, not being able to explain his meaning (pictorially) with his own hand.

* Respecting this fine picture, Mr. Redgrave remarks that "Suspense" is a picture likely to call forth the imagination of the spectator, and says:—"A bloodhound is watching at a closed door, shut out, one may imagine, from the wounded knight, his master. There are the steel gloves removed from the now powerless limbs—the torn eagle-plume speaks of the deadly strife—and the continuous track upon the floor shows how his life-blood flowed away drop by drop as he was borne within. Who does not watch with the faithful hound in deep "suspense" for some token that he yet lives? Others, again, may read the picture far differently: they may imagine that the dog has tracked the author of some act of violence or deed of blood: torn from his casque by the struggling victim, lies the plume on the floor, sprinkled with the blood shed in the struggle ere the victim was borne within the now closed portal: we recognize the scuffle of the moment, the hand clenching the door-post with fearful energy to prevent the closing, the stifled cries, the hopeless resistance. Yet there, like a watchful sentry, waiting in silence, the animal crouches, whose deep instincts teach him untiringly to follow the object of his search: the spectator himself waits in anxious eagerness for the re-opening door, anticipates the spring of the animal, and the renewed struggle that will ensue. Thus variously may the picture be read, each painting for himself a far different scene; but there are few who, looking on the painter's work, will stay entirely without the door, nor allow imagination to carry them away beyond the narrow canvas actually bounding the artist's labours."

WESTMINSTER NEW PALACE AND ITS ARCHITECT.

ON the motion of Mr. Tite, a return has been made "Of further Correspondence between the First Commissioner of Works and Sir Charles Barry, relating to Estimates and Expenditure upon the Works of the new Palace at Westminster, including a Copy of the Specification and Summaries of the various Estimates (in continuation of Parliamentary Paper, No. 160, of the present Session)."

With reference to an instruction that tenders in the gross should be obtained for the works yet remaining to be done, from the contractors already employed, it appears, "that upon application to Mr. Jay, the contractor for the principal portion of them, he refuses positively to make any such tender, and insists upon the strict fulfilment of the terms and conditions of his present contract: at the same time, he states that, upon receiving proper compensation, he would not be unwilling to relinquish his present contract if the Government should so desire."

The estimated sum required to complete the works sanctioned from 14th November, 1857, is.....	£81,102	19	4
Architect's commission	3,244	4	8
	£84,347	4	0
Deduct the available amount of vote for year ending 31st March, 1858.....	15,423	0	0
Total estimated amount required	£68,924	0	0

"NOTE.—The porch and other additions to the Speaker's residence, the additional accommodation for peers' and commons' libraries, and other minor supplemental estimates, that have been rendered during the current year, are not included in the foregoing estimate, they will not exceed the amount stated for them, and which is supposed to have been already provided [5,140*l.*]. The cost of the dials, bells, clock, &c. is not also included in the general cost of the building, by the authority of the Board, by letter dated 5th February, 1857.

Also, the assistance that may be required by the fresco painters for fixing their work, and works that may be required by the Fine Arts Commissioners, is uncertain, and is not included.

The landing steps and inclosure at the south end of the building, and the inclosure at the north end, are not yet determined, and no amount is provided for them.

(Signed) C. BARRY."

Further estimates were rendered by Sir Charles Barry subsequently to the 11th April, 1858, amounting to 35,376*l.*

In reply to a memorandum which was printed by order of the House of Commons, and in which his conduct, as the architect of the new Palace at Westminster, has been called in question, Sir Charles emphatically denies that he ordered any works without the late First Commissioner's sanction, and asserts that he has never failed to give every explanation and information in his power whenever required by the late First Commissioner, upon this and all other subjects.

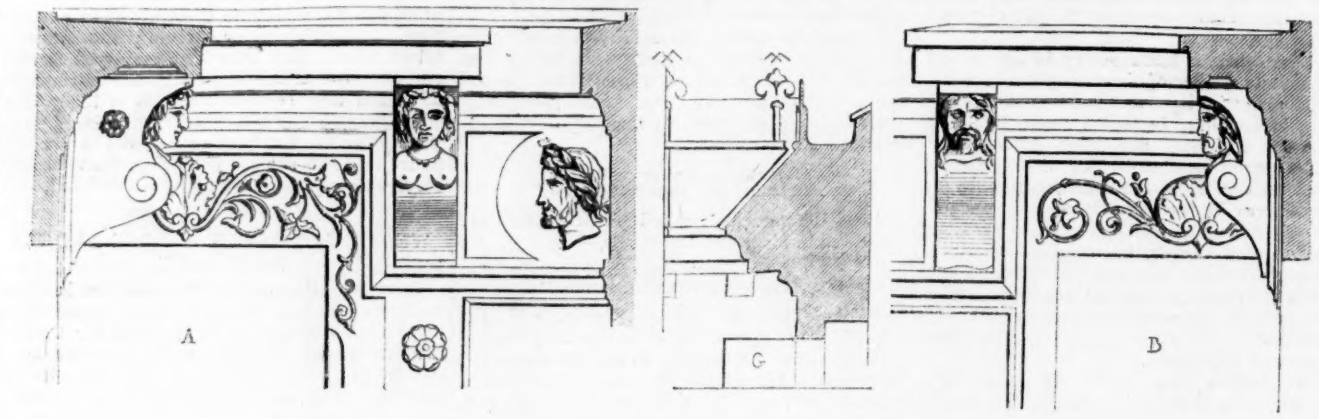
The letter ends,—

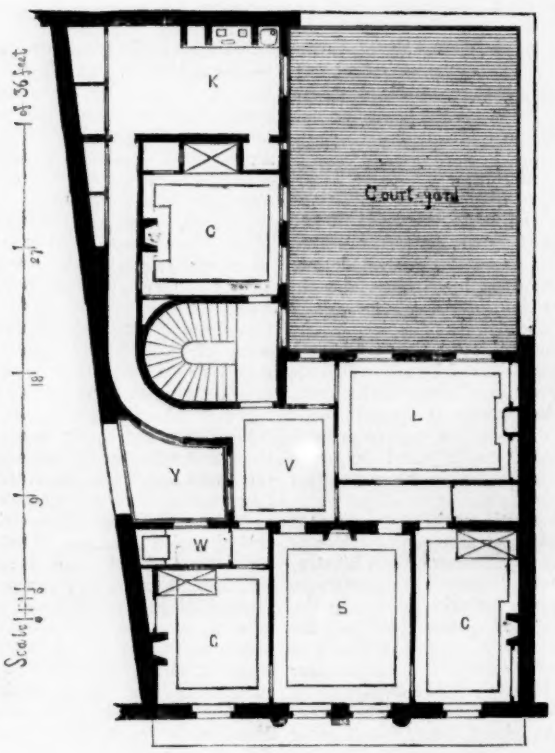
"I have thus replied *seriatim* to the several charges of the late First Commissioner, which I cannot admit to be justified either by the correspondence or the facts and circumstances of the case. Notwithstanding such unmerited accusations, however, I have the satisfaction to feel that I have ever discharged the anxious and responsible duties which have devolved upon me as the architect of the new Palace at Westminster, zealously, faithfully, and to the best of my ability, although under the most trying circumstances and great discouragement.

"CHARLES BARRY."

SCHOOLS IN THE EASTERN COUNTIES. — The Rev. M. Mitchell, in his report for the past year on the Church of England Schools inspected in the counties of Norfolk, Suffolk, and Essex (printed with the Minutes of the Committee of Council on Education, issued on the 23rd ult.), states that his previous observations respecting the lighting and ventilating of schools are beginning to "work a good effect." He is persuaded that yellow-coloured walls like those at Rendlesham, Kesgrave, and the girls' school at Lowestoft, produce an effect of melancholy and depression. The rev. gentleman's report of the schools inspected is generally more favourable than at any former period.

PARISIAN STREET ARCHITECTURE.—*Details: House, Rue de la Chaussée d'Antin.*





Plan of House, Boulevard Beaumarchais.

PARISIAN STREET ARCHITECTURE.

HOUSE ON THE BOULEVARD BEAUMARCHAIS.

THE plan of the house illustrated on this and the opposite page may be regarded as the type-plan of a large number of houses in Paris. The vestibule, it may be seen, communicates directly with all the apartments, and so renders them independent of each other,—an obvious desideratum not always effected in French architecture. C, marks the chambers; S, sitting-room; L, living-room; V, vestibule; K, kitchen; W, water-closet; Y, inner court.

The façade is not wanting in originality. In the frieze of the first-floor casements are let in some tablets of Rose marble, which harmonises happily with the stone, and enables the eye to appreciate the details, which we give 1-20th full size.

HOUSE, RUE DE LA CHAUSSÉE D'ANTIN.

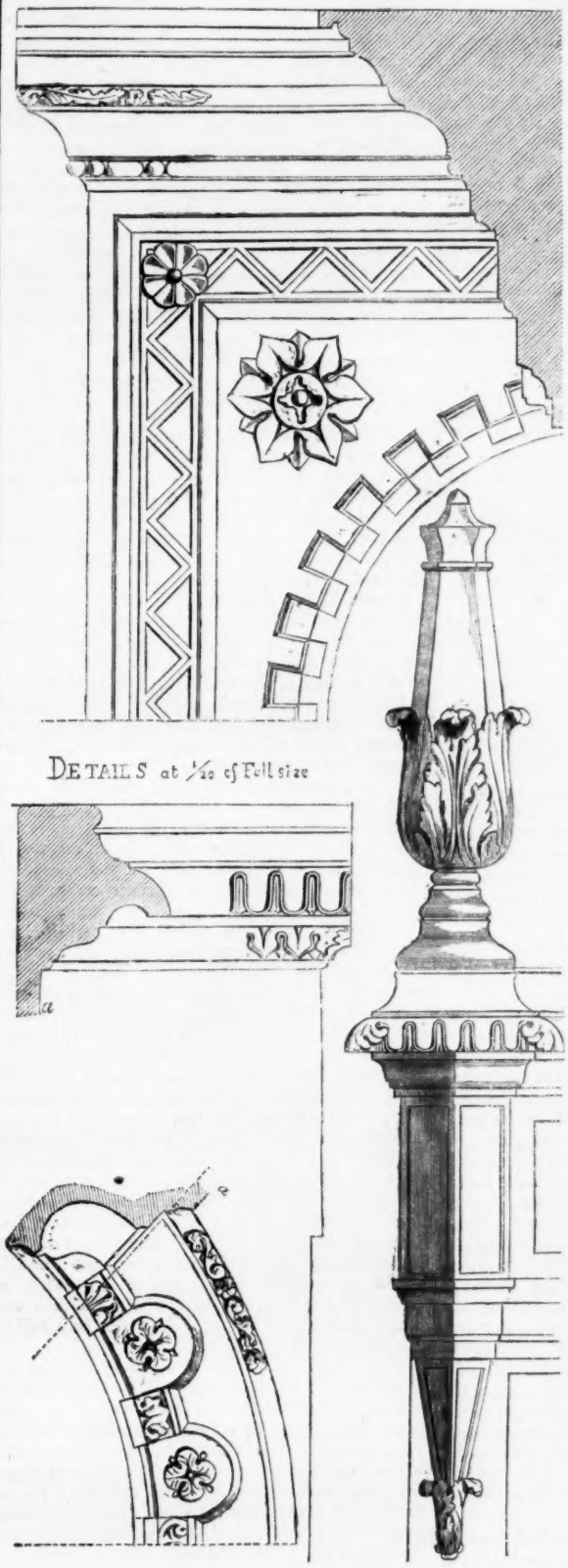
We append the windows and other details of this façade, engravings of which we gave pp. 158 and 314. A and B, window-heads and consoles, first-floor; C, centre window, second-floor; D, side window, second-floor; E, window and cornice of the third-floor; F, console of the entresol; G, cornice and gutter of the fourth story; H and K, details of door.

THE PUBLIC OFFICES.

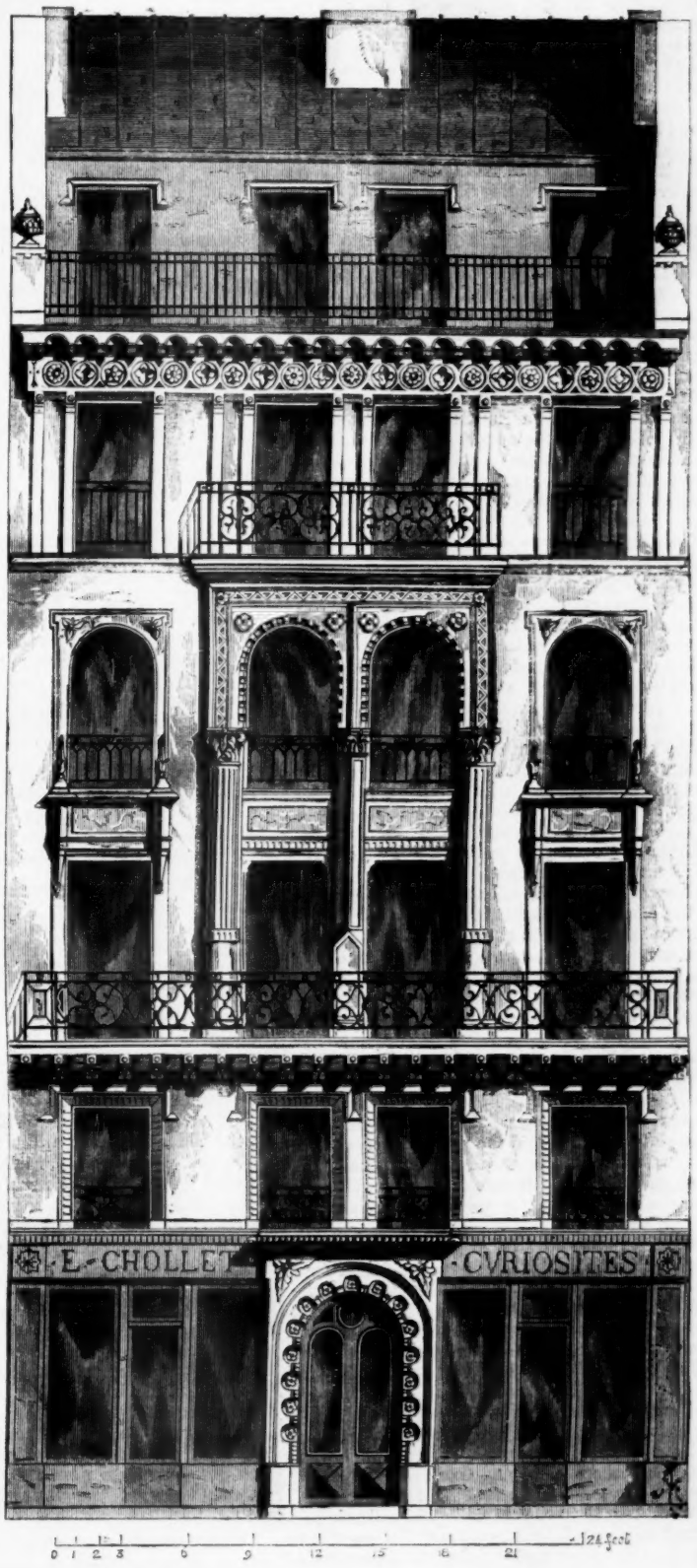
SIR,—It seems another attempt is to be made to settle the vexed question of the Public Offices. Surely the late abortion was quite sufficient to show that the Office of Works was neither prepared nor willing to take the matter in hand; and although the public are paying 24,000*l.* per annum for miserable accommodation, besides suffering an enormous loss by property already purchased, and an enormous outlay in Pall-mall for the War Department, still we are as far off from a proper settlement of the question as ever, and so we shall continue until public attention is drawn to this monstrous extravagance. As I have already said, the Office of Works have neither the time nor inclination to engage in it, for this simple reason, it will entail upon the officials an immense increase of labour, without the slightest pecuniary advantage, and therefore they will give it the go-by. The only course left open is to follow that adopted under the old Westminster Improvement Act of 1806, and also followed out under the Regent-street Act, viz. by the appointment of an independent commission, with ample power to make purchase, settle plans, and superintend the whole affair. Then, and not till then, will there be a chance of something being done; but to expect an already over-worked body of men to be willing to take an additional burthen is more than will ever be realized.

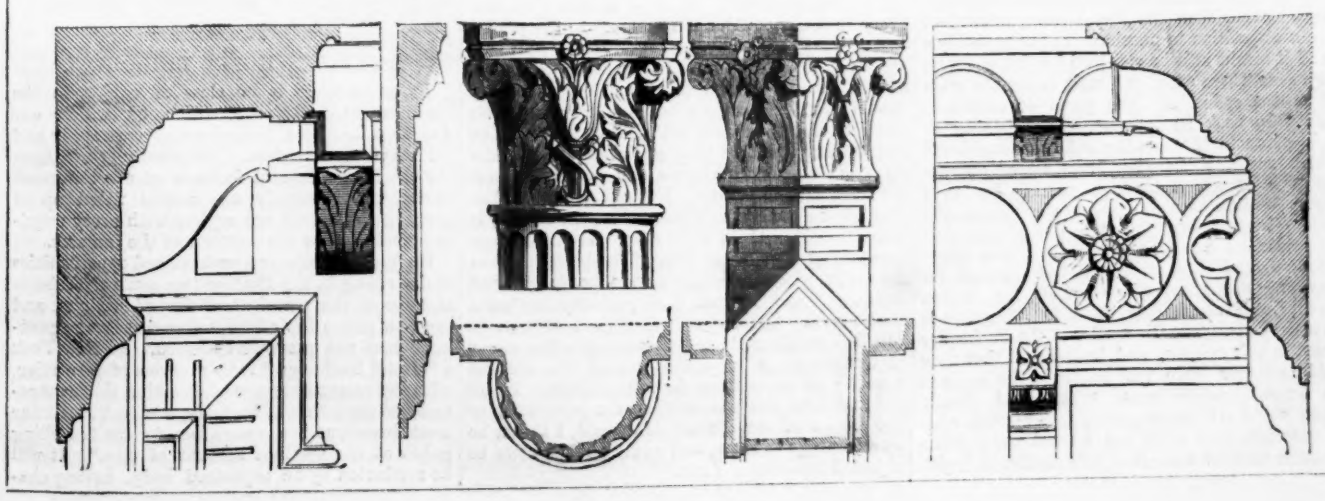
T. G.

PARISIAN STREET ARCHITECTURE.—*House on the Boulevard Beaumarchais.*



DETAILS at 1/10 of Full size





THE BRITISH MUSEUM AND THE HOUSE OF COMMONS.

IN moving for the estimates of the British Museum, Lord John Russell stated that the increase of the vote for the present year amounted to 12,820*l.* of which the increase for purchases was 3,450*l.*; and that the average attendance in the reading-room used to be about 180 persons a-day; last year it increased to 200; but since the new room has been opened, on the 18th of May, 1857, it had increased to nearly 400 a-day. The number of persons attending the general collection of the Museum has also greatly augmented. In 1856 it was 360,000, and in 1857 it had increased to 621,000,—a larger number than had been before known. The noble lord concluded by moving that a sum not exceeding 79,275*l.* be granted to defray the salaries and expenses.

Some discussion then took place respecting the propriety of opening the Museum on Sunday afternoons, after divine service. Mr. Gladstone said that the question of opening places of amusement and recreation on the Sundays was one of public policy; and, whatever might be the private opinions of the trustees of the British Museum, they would make a great mistake in taking it on themselves to open that institution on the Sundays. It was rather for the hon. gentleman (Sir J. Trelawny), and those who thought with him, to make that proposal to the House; but he might easily anticipate what the fate of it would be.

Lord Elcho complained of the manner in which the space in the British Museum was appropriated, as well as of the general arrangement of the buildings. Efforts should be made to methodize the various collections, as had been suggested by Mr. Newton. A distinct line should be drawn between Christian and Pagan art. It was also worthy of consideration whether the collection of natural history might not advantageously be removed to another place. Burlington House might be available for that or the mineral collection. The botanical collection in the Museum and that at Kew should be placed together. The collection of portraits should be placed with those in George-street. The collection of Mediæval art in the Museum, that in Kensington, and that in Jermyn-street Museums, ought to be all placed together.

Mr. Gregory hoped that the system of lectures in this Museum, which had been so warmly advocated by Professor Owen, would be shortly established.

Mr. Duff thought that the time had arrived for raising the salaries of the second class officers of the Museum; and Sir P. Egerton suggested that ample room might be provided if a light cast-iron gallery were put around the rooms. For want of private studios the officers had to occupy one of the finest galleries in the Museum. He hoped that a vote would be taken for providing accommodation for the officers.

Mr. Tite believed that at present the houses north of the Museum might be purchased for a moderate sum (Lord John Russell says 150,000*l.*), and wished to know whether something could not be done to make the bequests to the Museum more generally known. One of the finest archæological collections ever known, the property of an Italian nobleman, at Rome, was for sale at present, and some efforts ought to be made to secure it for this country. The question of lectures was a large one. If they were established, he did not think there would be room enough in the Museum for those who would flock to them.

With regard to the archæological collection referred to, Lord John Russell said that an offer to purchase had been made by the late Chancellor of the Exchequer, but it had not been deemed high enough. Since then the Papal Government had shown a disposition to purchase it; but probably a part of it might still be obtained by this country. Every year there were proposals to remove some part of the collection,—the parts of course in which they took no interest. The opening of the Museum in the evening had been considered by the trustees; but they were all of opinion that the danger from fire would be very great. Anxious to accommodate the public, the trustees have agreed to open the Museum to the public on Saturday afternoons. Mr. Gladstone believed that the time had arrived for separating the great collections of the British Museum, and transferring them to other sites of the metropolis. The Chancellor of the Exchequer agreed in this opinion, and he believed that they could no longer leave the matter in the hands of the Royal Commissioners. "They had already before them all the necessary information upon the question, and what was wanted was a determination to draw from that information its legitimate consequence." The hon. gentleman remarked that about six years ago, a great effort was made to provide increased space for the national collections, and he had with great pleasure about six years ago the honour of proposing a grant of the public money of 180,000*l.* to be added to an equal sum advanced by the trustees of the Great Exhibition, out of the surplus fund for the purchase of land, with the idea that when sufficient space had been obtained, a second collection should be formed in the metropolis, which would not only relieve the British Museum, but in which the public collections might be studied with greater advantage to the public. The land was purchased, and had been held in trust by the Commissioners of the Great Exhibition; but it was impossible to deny that the expectations which had been raised respecting it had not been fulfilled: the site itself had been objected to, and the only result had been the formation of the Museum of Science and Art. The Government were now in this position: the Commissioners of the Great Exhibition called on them to assist in fulfilling the just expectations of the country, when they subscribed their surplus in aid of the vote of the House, and the Government did not find itself in a position to do so. Under these circumstances the Royal Commissioners had made a proposition to the Government to dissolve the partnership which had been so barren of results, and to pay to the country the amount they had received (180,000*l.*), with a moiety of all rents that had been received during the interval, so as to leave them free to effect their object, and give them an absolute title in the land at South Kensington. He thought it a very prudent course to take, and would shortly bring the matter before the House. This arrangement would re-open the question of providing more accommodation both at the British Museum and National Gallery.

In glancing at the above discussion, it is gratifying to notice the unanimous feeling in favour of the grant, and the promise it seems to hold out of a careful re-arrangement of our collections before long.

COMPETITIONS.

CORRESPONDENTS are asking what has been done with respect to Buchanan-street station, Glasgow.

Sunderland Orphan Asylum.—The reference made in the advertisement to an architect for information has excited animadversion. The *Sunderland Daily News* says,—"Who that reads that advertisement but will at once come to the conclusion that the Board intend Mr. Moore to carry out the plans, and that, while the designer gets only a paltry 20*l.* for his intellectual vigour, it is intended that another is to run off with the cream of the bowl—2½ per cent. or so on the amount of the contract—for a mere act of routine? What architect of respectability and talent will compete on such terms—terms that are insulting to a race of highly-educated men? We trust that the blunder is but an inadvertence, and that the future proceedings of the principals and governors will be such as to prove that it was so." One of our own correspondents says that having written for information, he is told they cannot "give the least idea as to the *number* of boys the principals and governors are prepared to *keep*: so architects will have to *guess* for required accommodation. You will at once see what a medley of useless productions will result from such a *wide* advertisement."

Architects who compete.—I have just read an article in the *Builder* of June 5, on "A Cambridge Competition." It must be admitted that every such competition is a disgrace to the profession:—I say, advisedly, to the *profession*; for it is too much to expect from the weakness of human nature, as represented in committees, that they should offer honourable conditions and make their decisions in accordance with these conditions, so long as they find that they can always obtain designs on dishonourable terms and make dishonest decisions with impunity. I repeat, therefore, the profession alone are to blame. But the remedy is the difficulty. It is now some time since you commenced publishing lists of builders' tenders for works, which sometimes were headed "blind builders;" and I think their publicity has had a good result. Could you not give a column to "foolish architects," and therein give the names of those who so unprofitably feed the craving appetite of committees for competition. In all fair and *bonâ fide* competitions the publication of the names of the competitors would, I think, be an advantage to them, and would not therefore be objected to.—BONA FIDE.

The Cambridge Station.—Sir: In your last week's publication you animadverted on the Cambridgeshire police stations competition, giving, with a reservation, the county chief constable the credit of the gross act. In this you were misinformed: it was the Hon. Eliot Thomas Yorke, M.P. who presided, and gave judgment in favour of his own plans, his drawings being introduced three weeks after the other designs had been submitted to, and overlooked by the magistrates, who then adjourned their decision. This wrong-doing was not altogether overlooked by the profession, as appears from a letter, published in the Cambridgeshire papers, a copy of which I send you.—COMPETITOR.

Banbury.—About forty designs for the cemetery chapels, it seems, were sent in for competition; premium, 20*l.* The local public were to be admitted to see them after inspection by the Health Board.

ARCHITECTURAL INSTITUTE OF SCOTLAND.

ON Monday, 31st ult. a meeting of the Architectural Institute of Scotland was held in Edinburgh, when Col. Moody, R.E. gave some explanation of the plans, so far as approved, of the proposed alterations on the Castle, the plans being exhibited on the walls. There was a very numerous attendance of the members and of the public. The Lord Provost presided.

Colonel Moody said that the only work now in progress was the formation of the roadway behind the armoury, which was not a piece of architecture, but of civil engineering. Of this there only remained a piece of the retaining wall to be put on, and the green slope to be restored. With regard to the future, it was perfectly true that, as commanding officer of engineers in Scotland, he considered that a great many additional buildings at the Castle were desirable, and, more than that, absolutely necessary for the comfort of the troops. So far as he was concerned, he should urge it on those higher authorities with whom he would come in contact, that whatever designs were prepared for Edinburgh Castle, whether prepared by himself or any one else, should be subjected to the very highest judgment and skill in architecture which the kingdom could produce. With regard to all matters referring to the comfort of the troops, he should be guided very much by his own judgment and his knowledge of the service, which was considerable; but, with regard to the architectural part of it, all he wanted was that in Edinburgh Castle the very best things should be put there that could be put there, and, whether put there by him or any one else, he gave his word of honour, as a soldier, he did not care in the least. He hoped yet to restore the great dining-hall of the kings of Scotland—a magnificent chamber, in which many of the Scottish parliaments were held. The old roof stood exactly as it once was. The dormers, and floors, and windows were all modern introductions, and were all barbarisms; and it would be desirable once more to show that interior, with its fine open timbers, its dais and music gallery, and ancient character as a hall of the old Scottish kings.

The Lord Provost then proceeded to deliver the medals to the successful competitors for the prizes offered by the Institute, a list of whom we gave some time ago. The medals were delivered to Mr. John Alexander Hamilton, apprentice to Mr. Rhind, for the best specimen of geometrical drawing of an architectural subject competed for by architects' apprentices; to Mr. Robert Morham, apprentice to Mr. Rhind, for the best perspective drawing; and to Mr. William Gellatly, Pleasance, for the best model of an architectural ornament.

AMERICAN HOTEL BUILDINGS.

PERHAPS there is no class of edifice to the arrangement and construction of which our American brethren have devoted more study and attention than hotels. Externally they form the chief architectural features of the cities and towns, and internally are usually fitted up in gorgeous style, and are replete with every requisite conducing to the comforts of the inmates.

On frequent occasions we have had opportunities of describing in the *Builder* the general features of some of the principal of these buildings, and can now give a few additional particulars respecting others not previously noticed. In New York a "Hotel Exchange" is in progress of formation, with the avowed purpose of directing the management of the hotels in that city, and to "afford the most luxurious accommodation to the travelling public at the smallest amount of cost." It will be conducted by an organized body, having cha-

racter, intelligence, and firmness, and who will be invested with legal powers and privileges, banking and insurance authority, power to hold and convey real estate, to issue stocks, and perform all such functions as usually appertain to corporations.

The Pavilion Hotel at Evansville, Muriana, is a new and fine building. A new family hotel is projected to be built in Pennsylvania Avenue and Lafayette-square, at Washington. The land will cost 170,000 dollars, and the house and furniture 200,000 dollars more. The arrangements are of a comprehensive and costly character.

The Hon. J. M. Wood, of Portland, is erecting a magnificent hotel, intended as a first-class house at that city, and will, when completed, be one of the most elegant and spacious in the land.

The most prominent public building in New Orleans is the St. Charles Hotel. It not unfrequently contains from seven hundred to seven hundred and fifty guests, and its grand entrance-hall, where gentlemen smoke, read, chew, &c. presents a scene of bustle only to be compared to the Paris Bourse. The ladies, averaging one hundred in number, sit down to breakfast in full dress; and after dinner, the drawing-room scene is said to resemble the court of Queen Mab. This monster establishment is a model of its kind, and one of the sights of America. Messrs. Hall and Hildreth are the proprietors. Great improvements have been made in the hotels at Pittsburgh. The steam-engine is designated as the "right arm" of the establishments: it cooks, bakes, broils, fries, washes, warms, dries, and, in short, does everything for the landlord, except talk and collect his bills. The Troy House, Congress Hall, Albany, and Stevens's House, are worthy of special consideration in connection with "hotel improvements" in that locality.

ROYAL DUBLIN SOCIETY.

AT a recent meeting of this body (Mr. James Haughton in the chair), a very interesting paper, exhibiting statistical facts connected with agricultural improvements in Ireland, was read by Mr. Thomas Millar. In 1847 and 1850 the author visited the provinces of Ulster, Leinster, and Connaught, and was much struck with the natural fertility of the soil but the bad husbandry of the small farmers. The poor-rates were often higher than the rent roll. Whole districts were depopulated, and emigration, famine, and pestilence had added to the number of farms on the landlords' hands. The case now is different. English and Scottish capitalists are purchasing freely, but the latter were in considerable majority. Useless fences and ditches are being rooted out, fields enlarged, better houses and offices built, and improved husbandry will necessarily follow.

The Registrar-General estimates a reduction in the population since 1851 of 539,282, and the present population at 6,013,103. Hence the reduction of small holdings, and increase of rates for labour. From 10d. to 1s. 3d. per day are now paid by the settlers, being from 6d. to 8d. more than hitherto. Toll-gates are almost unknown: the county cess is applied to making and macadamising roads. Mr. Pollock is a great benefactor to the country.

CHURCH-BUILDING NEWS.

Hawkhurst.—Extensive alterations are to be shortly carried out at the parish church. According to plans and specifications provided by Mr. Slater, it is proposed to do away with all the galleries. The present arrangement gives 1,038 sittings; the new plan, 1,062. The total expense is estimated at 1,700*l.*, 800*l.* of which are already subscribed. The alterations will comprise the heating of the church by hot water apparatus, and perhaps an organ may be added.

Colwich.—The church of Great Haywood, in this parish, has been enlarged, and re-opened. The additions consist of a new chancel and south aisle, besides which the old church has been newly roofed, and the entire building fitted with new seats of oak. The whole church is laid with Minton's tiles. The architect is Mr. Stevens, of Derby.

Wolverhampton.—The foundation-stone of a new Jewish Synagogue has been laid here. The site of the building is in Fryer-street, and the edifice itself will be but of a comparatively small size. Mr. Bloor is the architect, and Mr. Elliott the contractor.

Wolverton.—The foundation-stones of a church and of a school have been laid at Wolverton, respectively by the Marquis and Marchioness of Chandos. They are chiefly intended for the people connected with works of the London and North-Western Railway Company, and the funds for their erection have been mainly contributed by the directors. The church will afford seat-room for 800 persons, and the school will accommodate 300 children.

Westhoughton.—The foundation-stone of a new church at Wingates, in Westhoughton, to be dedicated to St. John the Evangelist, has been laid on a site within a short distance of the school. The want of a church being felt, the Vicar of Deane offered 1,000*l.* and Mr. Starkie, of Huntroyde, gave the land. The architect is Mr. Shaw, of Manchester.

Barnsley.—St. John's church, at Barnsley, recently consecrated, is designed in the Early Decorated style of architecture, and, according to the *Leeds Intelligencer*, consists of chancel, 31 feet by 18 feet, with sacristy on the north side; a clerestoried nave of five bays, 75 feet by 21 feet, having north and south aisles 9 feet in width. The total internal width of the church is 45 feet, and the total length is 106 feet. The height of nave to the apex of the roof is 56 feet. The nave roof consists of braced and bolted principal framing (no intermediates being used) and common rafters, and is open to the ridge. The roof over the chancel is high pitched, and divided into panels formed by moulded ribs. The seats in the nave and aisles are low open benches, having quaintly-cut standards. The chancel is pierced on the south side by two three-light windows, and on the north side with one two-light window. The east gable is filled with a moulded window of five lights, supporting a circle containing six spherical triangles trefoliated. The clerestory walls are pierced, with ten circles filled with tracery of various designs. The aisles have two-light windows moulded, the tympanums being perforated in geometrical forms. The west gable is supplied with two two-light windows and a vesica above. In the east end of the south aisle there is a small two-light stained glass memorial window, executed by the St. Helens Stained Glass Company. The walls are built with pitch-faced sandstone, from an adjoining quarry. The whole of the walls are diapered. There is a gabled stone bell-turret over the chancel arch; height to summit of cross 76 feet. The church will accommodate 600 persons (including 453 adults) all free. The persons who executed the works were Mr. Wm. Robinson, mason; Mr. Josh. Smith, joiner; Mr. M. Wood, plumber and slater; Mr. Barker, plasterer; and Mr. Chas. Rogers, painter. Mr. Philip Boyce was the architect. The estimated cost of the building is upwards of 2,300*l.*

Heaton Mersey.—The Bishop of Manchester has just fixed up other two stained glass windows in the south side of the nave of St. John the Baptist's church here. They are of geometrical design, and in the centre of one are the arms of the see of Lichfield and Coventry, and in the other the arms of the see of Chester. These make four windows put up in this church by his lordship, and executed by the same artists, Messrs. R. B. Edmundson and Son, of Manchester.

Berwick.—The foundation-stone of the church now being built in Wallace's Green has just been laid. The edifice will be cruciform, but internally it will be denuded of a portion of that character, as the part beyond the transept is to be appropriated to the purposes of a vestry. The length of the nave will be 83 feet 6 inches, and the breadth 41 feet 6 inches. The arms of the transepts, which will be 32 feet across, will alone contain galleries. The building will accommodate 1,000 persons. The entire work has been contracted for by Mr. M. Reed, of Newcastle.

Belper.—The ceremony of laying the foundation-stone of the new cemetery at Belper was performed by Thos. Wm. Evans, esq. M.P. on Whit-Tuesday, when nearly 7,000 persons were present. The chapels are semi-detached, having robing-rooms, and connected by a carriage-way with the central tower and spire, 140 feet high. They are in the Geometric style of Pointed architecture. A lodge similar in character is to be erected at the extremity of the land contiguous to the turnpike-road leading from Belper. The architect is Mr. Edward Holmes, and the builder, Mr. W. Freeman, of Belper.

Queenstown (Cork).—A new stained-glass window has been put up in St. Mary's Convent, Queenstown. The architect employed in the improvements was Mr. John Hurley, of Cork. The centre light of the window depicts the agony of our Lord, near whom is seen an angel presenting him with the chalice: in the background is a palm-tree. Below this subject is another, forming, as it were, the foreground,—the disciples Peter, James, and John, asleep. Underneath is a third compartment representing an angel kneeling and bearing a scroll. The whole is surmounted by canopy work, with diapered background composed of the passion-flower running through it. In the large opening at the top of the window is the Crucifixion, with the Virgin and St. John on one side of the Redeemer, and Magdalen weeping at the other. All the other tracing is filled with foliated ornament. The two side-lights are of geometrical pattern. This window has been designed and executed by Messrs. Edmundson and Son, of Manchester.

LAW NOTES.

Poor-laws—Embezzlement by Collector—Liability of Parishes to pay again.—The Court of Queen's Bench has lately decided the case of the City of London Union frauds. The collector embezzled large sums, which he ought to have paid to the treasurer and to tradesmen. When the frauds were discovered, the guardians made an order on all the parishes of the Union to contribute towards the loss. The right to do so was disputed, but the Court has decided that the order so made is good, even against the parishes for which the defaulter had not been collector.—*Waddington* v. *The City of London Union Guardians.*

Metropolis Local Management Act—Drainage.—The Poplar District Board of Works caused two houses to be demolished which were built over an embankment of earth (known as the Marsh Wall) running round the Isle of Dogs, and keeping back the Thames water from the island at high tide; and a question was raised as to whether they could recover the expense so incurred. It was held by the Court of Queen's Bench (on appeal) that the buildings were illegally erected, as they were on the place of the wall (which was strictly a sewer) without the consent of the proper authority; and that the District Board was entitled to be paid for removing them. A question of jurisdiction was also raised; but it was held that as the parties who had begun to build had treated with the District Board as having jurisdiction, and as the Metropolitan Board had not ever exercised jurisdiction over the sewer in question, the Poplar Board had jurisdiction to pull down the buildings, and to reinstate the "Marsh Wall." Lord Campbell held that, under the Act, a "sewer" is not only a drain, but that a wall keeping back high water is a "sewer," according to the evident intention of the Legislature.—*The Poplar District Board of Works* v. *Knight.*

Sale by Auction—Deposit.—A cottage and garden were put up for sale (the conditions including notice of forfeiture of deposit), and were knocked down for 120*l.* The buyer signed an agreement, but paid no deposit, and ultimately refused to complete the purchase. The premises were put up again, and only brought 105*l.* An action was brought for the loss, 15*l.*; the expenses, 9*l.*; and for the amount, 24*l.* which ought to have been deposited, and the jury found for all these sums. On motion, however, the 24*l.* were struck out. Lord Campbell (who stated that the Court had consulted Lord St. Leonards on the point, and that he agreed with them) held, that though deposit, if paid, could not have been recovered by buyer, even if re-sale produced more than first sale, still that as it was not paid, the seller could only recover the amount lost and the costs of second sale.—*Ockenden* v. *Henley.*

Parish Law—Constables.—It was held, lately, that the justices have a discretion to issue a precept to overseers to summon a vestry meeting to make out a list of persons qualified and liable to act as parish constables, and that if such precept be disobeyed, a *mandamus* may be obtained from the Court of Queen's Bench to enforce it.—*The Queen* v. *North Bierly.*

Landlord and Tenant.—A tenant about to quit a house before his time, agreed with landlord that the latter should accept another tenant found by the outgoing one. The tenant named was refused without reasonable cause, and the outgoing tenant sued for damage sustained, and recovered 30*l.* On a motion for a new trial, it was urged that the agreement was invalid, as not being under seal; but the new trial was refused, the Court holding that such an agreement did not require to be under seal.—*Grindell* v. *Kelly.*

Railway Company—Lands.—A railway company, being empowered to make a branch line, took possession by law of certain lands. Changing their intention, they applied to Parliament for power to make another branch instead of the intended one, but still requiring the lands. It was held, that the landowner had not power to restrain the company from making such new

branch, nor could he call for a re-conveyance of his land, under any circumstances, before the expiration of ten years after the time limited for the completion of the works.—*Astley* v. *Manchester, Sheffield, and Lincolnshire Railway Company.*

THE NINE HOURS QUESTION.

ON the 3rd inst. an aggregate meeting of carpenters and joiners of London was held at Exeter Hall, Strand, in furtherance of the above object. Mr. Baine presided, and there was a large attendance.

The chairman said,—Some time back, when the greatest distress prevailed, a meeting of delegates was held to consider the best means to alleviate that distress. Several measures were proposed, but the reduction of the hours of labour from ten to nine hours was carried by a large majority. Upon that district meetings were called, and resolutions passed in its support. Appeals were made to shops and jobs in support of the movement, and they had responded to a great extent. He considered that they should be organized the same as other branches of the building trade, to reduce the hours of labour to nine per day. They would be doing that which would be giving employ to their 2,000 brother workmen.

Mr. Charles Hackworth then proposed the first resolution :—"That this meeting views with deep regret the distress existing amongst our fellow workmen through want of employment. It therefore proposes to reduce the hours of labour without interfering with the present rate of wages."

Mr. Taperill, in seconding the motion, contended that the hours of labour could be reduced without national injury, for there was abundance of property, and the productions of the working-classes were above what was wanted. As to the question of the wages, he thought it was a most knotty point; but they must not, under any circumstances, be reduced.

The motion was carried unanimously.

Mr. George Potter then moved the second resolution, as follows :—"That in the opinion of this meeting a memorial should be drawn and presented to our employers, praying them to reduce the hours of labour from ten to nine hours per day, by which many of our destitute fellow-workmen will obtain their proportionate share of employment, and would also give to those employed more time for moral and intellectual improvement." He contended that although the masters might sacrifice a little at first, they would not lose anything in the end.

Mr. Pepperell having seconded the motion, others addressed the meeting, and it was carried.

HEALTH REPORT ON ST. JAMES'S PARISH, WESTMINSTER.

THE second annual report of the medical officer of health for this parish, has been printed. From this report it appears that, although the number of deaths is slightly more than those of last year, still they are below the average of the last twelve years, and there is a decided decrease of mortality in the once notorious Berwick-street district. The comparative unhealthfulness of last year is partly attributed to the high temperature of the summer, and the closeness of the season, or slowness of the wind's movements, and also to the cold of the latter part of the year. The increased tendency to diarrhœa is a cause for anxiety, especially as it is a known precursor of virulent cholera, which indicated its presence in the autumn; and if the present summer prove a close and hot one, with a deficiency of electric storms, we fear much for the result; but the summer has made an excellent and promising beginning in these respects, hot as the weather is. The closing of surface pump wells in St. James's, Westminster, has been engaging the attention of the authorities: it is to be hoped, however, that no other street pumps will be withdrawn, and that on the contrary those suppressed will be replaced with better water. The poorer classes greatly need an increased supply of street taps or pumps, especially during summer; and while fountains are being opened at Liverpool and elsewhere by the dozen, it is to be hoped the metropolitan public are not to be made worse off than they were for a draught of water in the street while thirsty. The temperance societies could not employ themselves better than in agitating such a question. But the water supplied by the metropolitan water companies themselves is complained of in the report under notice, and justly so. The New River water has of late been at times quite disgusting; and the company which supplies Battersea with water appears to think it necessary to lay it on occasionally as thick as possible. Boiling and filtration are recommended by the reporter, Dr. Lankester, in using the New River and Thames waters, and a wish is expressed that the metropolitan public could be spared the necessity of swallowing the Oxford sewage with their internal water supply. Constant supply at high pressure is also pointed out as desirable, and it is noted that four-fifths of the occupiers or owners of houses can now compel this to be done. The report contains remarks on drainage and various other subjects connected with the sanitary state of the parish of St. James's, Westminster.

Books Received.

A Manual of applied Mechanics. By W. J. M. RANKINE, F.R.S. &c. London and Glasgow: Richard Griffin and Co. 1858.

THIS elaborate and valuable elementary work, by the President of Engineers in Scotland, and Regius Professor of Civil Engineering and Mechanics in the Glasgow University, forms the thirty-ninth volume of the "Encyclopædia Metropolitana. Second Division: on the applied Sciences." It is illustrated with numerous diagrams. The subject is thus arranged :—I. First Principles of Statics. II. Theory of Structures. III. First principles of Cinematics. IV. Theory of Mechanism. V. First Principles of Dynamics. VI. Theory of Machines. The second division,—on the theory of structures,—is especially valuable: it is subdivided into chapters on definitions and general principles,—stability,—and strength and stiffness. The second and most extensively developed portion of the treatise on the theory of structures is so mixed up with the numerous diagrams that it is impossible to give any idea of it without them. On the subject of "strength and stiffness" there is rather less difficulty, and we therefore select a few passages for quotation :—

"The *ultimate strength* of a solid is the stress required to produce fracture in some specified way. The *proof strength* is the stress required to produce the greatest strain of a specific kind consistent with safety; that is, with the retention of the strength of the material unimpaired. A stress exceeding the proof strength of the material, although it may not produce instant fracture, produces fracture eventually by long-continued application and frequent repetition. Strength, whether ultimate or proof, is the product of two quantities, which may be called *toughness* and *stiffness*. *Toughness*, ultimate or proof, is here used to denote the greatest strain which the body will bear without fracture or without injury, as the case may be: *stiffness*, which might also be called *hardness*, is used to denote the ratio borne to that strain by the stress required to produce it,—being, in fact a *modulus of elasticity* of some specified kind. *Malleable* and *ductile* solids have ultimate toughness greatly exceeding their proof toughness. *Brittle* solids have their ultimate and proof toughness equal or nearly equal."

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"*Factors of Safety* are of three kinds, viz.:—The ratio in which the *ultimate strength* exceeds the *proof strength*, the ratio in which the *ultimate strength* exceeds the *working stress*, and the ratio in which the *proof strength* exceeds the *working stress*. The following table gives examples of the values of those factors which occur in practice.

	Ult. Strength. Proof Strength.	Ult. Strength. Working Stress.	Proof Strength. Working Stress.
Strongest steel	1½	..	..
Ordinary steel and wr. iron, steady load....	2	3	1½
Ordinary steel and wr. iron, moving load ..	..	4 to 6	2 to 3
Wrought iron boilers..	2	8	4
Cast iron, steady load..	2 to 3	3 to 4	about 1½
,, moving load	..	6 to 8	2 to 3
Timber; average.....	3	10	3½
Stone and brick	about 2	4 to 10 av. about 8	av. abt. 4

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Resolution and Composition of Strains.—Let a solid of any figure be conceived to be ideally divided into a number of indefinitely small cubes by three series of planes parallel respectively to three co-ordinate planes. Each such elementary cube is distinguished by means of the distances, x, y, z, of its centre from the three co-ordinate planes. If the solid be strained in any manner, each of the elementary cubical particles will have its dimensions and figure changed, and will become a parallelopiped, which may be right or oblique—its size being conceived to be so small, that the curvature of its faces is inappreciable. The *simple* or *elementary strains* of which a particle, cubical in its free state, is susceptible, are six in number, viz.:—three *longitudinal* or *direct strains*, being the three proportional variations of its linear dimensions, which are elongations when positive, and compressions when negative; and three *transverse strains*, being the three *distortions*, or variations of the angles between its faces from right angles, which are considered as positive or negative according to some arbitrary but fixed rule, and are expressed by the proportions of the arcs subtending them to radius. When the values of those six strains for every particle are expressed by functions of the co-ordinates, x, y, z, the state of strain of the solid is completely expressed mathematically. The six elementary strains, in the cases to which the theory is limited, are very small fractions.

The method of reducing the state of strain of the solid at a given point, as expressed by a system of six elementary strains relatively to one system of rectangular axes, to an equivalent system of six elementary strains relatively to a new system of rectangular axes, is founded on the following theorem :—Let α, β, γ, be the longitudinal strains of the dimensions of a given particle along x, y, z, λ, μ, ν, the distortions of its angles in the planes $y\,z$, $z\,x$, $x\,y$. Conceive the surface of the second order whose equation is—

$$\alpha x^2 + \beta y^2 + \gamma z^2 + \lambda y z + \mu z x + \nu x y = 1.$$

Transform this equation so as to refer the same surface to the new axes of co-ordinates: the six co-efficients of the transformed equation will be the elementary strains referred to the new axes. Other ways of resolving strains have been pointed out by Professor W. Thomson, *Cambridge and Dublin Mathematical Journal*, May, 1855.

The sum of the direct strains $\alpha + \beta + \gamma$ represents the cubic dilatation of a particle when positive, and the cubic compression when negative. The state of strain of a transparent body may be ascertained experimentally by its action on polarized light. On this subject experiments have been made by Fresnel, Sir D. Brewster, M. Wertheim, and Mr. Clerk Maxwell."

Scudamore Organs; or, Practical Hints respecting Organs for Village Churches and small Chancels, on improved Principles. By the Rev. JOHN BARON, M.A. London: Bell and Daldy.

PRESSED for funds for the restoration of his church, and anxious, nevertheless, to give his congregation the advantage of an organ, the Rev. John Baron devised a satisfactory chancel organ, which may almost be said to take up no room at all. Mr. Baron thus describes it :—

"The bellows, 4 feet by 1 foot 5 inches, placed under the seat of the stalls, the windchest and pipes (all 'im prospect,' as the Germans say) over the head of the organist against the wall, extending 4 feet from west to east, with a projection of 1 foot 3 inches. The keyboard, 4 octaves from C C to c 3 in alt., is just below the bookboard of the stalls, so that the player can see and control the whole choir. The pipes, forty-nine in number, are an open metal Diapason; the C C pipe, including foot, being 9 feet in length. The cost, including oak case, and allowing fair profit to the organ-builder, is 40*l.*; but, by making the seven lowest pipes, from C C to F sharp, Stopped Diapason, of wood, the cost would be still less, without impairing the musical effect."

In the work now before us the rev. writer seeks to point out how builders and restorers of churches may obtain with small funds truthful small organs in lieu of the pretentious pieces of sham with which village churches are sometimes disfigured. We will let him speak for himself :—

"That a small organ may be, and at the present day generally is, a great absurdity, I freely admit. But, upon the same principle, small churches have often, in an architectural point of view, been very absurdly designed and built. In the beginning of the revival of Gothic architecture, about twenty years ago, when as yet was unformed the school of highly talented and highly educated church-architects, who have since arisen to assist and guide the movement, many persons who had work to do in church building and restoration were thrown upon their own necessarily imperfect resources in taste and information. Britton's 'Cathedrals' was one of the earliest and best authorities, and consequently many seemed to be possessed with a notion that a parish church ought to be a miniature cathedral, and many would not rest contented with a set of plans, till they had crowded into them as many as possible of the pretty and remarkable things they could find in Britton, Rickman, Parker's Glossary, &c. till they had achieved a patchwork of prettiness as much like a genuine Gothic design as the style of Erasmus's 'Colloquies,' choke full of phrases, is to the chaste and natural Latin of Cicero. Even so has it been, and still is it in organ building, as will be more fully explained below. Many are the costly and mischievous absurdities which have been perpetrated upon the supposition that an organ for an ordinary parish church must be a miniature cathedral organ, an epitome (*multum in parvo!*) of that 'vast and comprehensive instrument' which is, in truth, an agglomeration of four organs. As it is now possible to obtain from many architects a simple, reverent, truthful, and satisfactory plan for a village church, entirely free from the fault of aping a cathedral, or of needless and incongruous ornamentation, so I trust it will, ere long, be possible to obtain from many organ-builders a specification and estimate of a simple, reverent, truthful, and satisfactory organ at a moderate expense, suited to the humblest village church."

The writer suggests that the essential parts of an organ are :—a set of keys, with the requisite action to carry onward the touch of the player; a bellows; a wind-trunk; a wind-chest; and the pipes, with sufficient framework to hold these parts together, or at least connect them in working order.

"The employers must take care not only that the organ may not exceed the forthcoming funds, but that it may really be suited to their requirements: the architect must take care that the dimensions and arrangement of the several parts harmonize with the building; for an organ ought to be as much a feature of a church as a door or window, without, however, being an architectural gimcrack, decked in every part with dandy Gothic. The organ-builder must also be continually consulted in the formation of a plan for an organ, lest the plan should interfere with the principles of good organ-building, as, for instance, by an undue complication or crowding of mechanism, a leading about of wind, a muffling of pipes, &c. &c."

Without advocating the cutting down of organs to the merest possible help to the congregation, we have no doubt Mr. Baron has "the right sow by the ear," to use his own quotation, in proposing to have

as few stops as may be, and to make the most of the stops used, by good materials, construction, and workmanship, and good acoustic position. The volume contains several designs for such small organs by Mr. Street. The subject is vitally connected with church architecture, and deserves the most candid consideration.

Miscellanea.

THE CHISWICK HORTICULTURAL FETE.—The fête of the Horticultural Society, on Wednesday, attracted a numerous and fashionable attendance, and it is gratifying to find that former difficulties appear to be vanishing. The Prince Consort is the president, and was present with her Majesty and other members of the Royal Family. The fruits were tempting, and the flowers quite gorgeous. There was a large show of implements, hot-houses, conservatories, &c. and numerous specimens of vases, in Ransome's silicious stone.

THEATRICAL AND EQUESTRIAN SICK FUND ASSOCIATION.—About 200 members of the Dramatic, Equestrian, and Musical Sick Fund Association went to Woking Cemetery, on Wednesday, led by Mr. Benjamin Webster, Mr. Cooke, of Astley's, and Mr. Buckstone, where these eminent caterers for the public amusement in all its varied moods,—"from grave to gay, from lively to serene,"—inaugurated their new and provident association by the much more grave than lively duty of taking solemn possession of a burial place for the members, which has been purchased from the Woking Cemetery Company in perpetuity, and comprises an acre of ground in the consecrated precincts of the Cemetery. An association that starts with the provision of ground for burying itself *must* be provident, and deserves support.

LINCOLNSHIRE DIOCESAN ARCHITECTURAL SOCIETY.—The annual spring meeting of this society commenced at Horncastle on Wednesday in last week, and was continued on the following day. The first day was appointed for holding the meeting, and the next for the excursion. A lecture on "Horncastle Church," was delivered in the outset by the Rev. George Atkinson, vicar of Stowe, in the chancel of the church. The meeting was held in the Corn-Exchange, where the museum of the Society was arranged. The Rev. E. Trollope read a paper "On the Roman Remains of Horncastle," and the Rev. F. C. Massingberd one upon "Bolingbroke Castle." The meeting then separated; but in the evening a public dinner took place at the Bull Inn. The chair was occupied by Mr. J. Banks Stanhope, and there was a large attendance. Next day the society and friends went to visit the objects of interest in the neighbourhood of Horncastle, and amongst others—St. Michael's Church, Martin; Tower on the Moor; St. Andrew's Church, Langton; Kirkstead Abbey and Church; Tattershall Castle and Church; St. Michael's Church, Conningsby; Revesby Abbey, and St. Benedict's Church, Scrivelsby. The proceedings were terminated with a *conversazione* in the Corn-Exchange.

WORCESTER DIOCESAN ARCHITECTURAL SOCIETY.—The first excursion of this society for the present season took place on the 1st of June, and was devoted to portions of South Worcestershire and the borders of Gloucestershire. Bredon and its church were first visited, and an ancient tithe-barn inspected. The party then proceeded to Twyning Fleet. In the church here Mr. Walker read a paper on the edifice. Thence they went to Ripple, by Brockeridge-common, and Mr. Hopkins read a paper on the church of Ripple, the galilee of which was noted at one time as the best place in the parish for keeping,—not exactly parish registers, but—the parish game! The route next lay through Upton to Ham Court, and thence to Queenhill chapel and Pall Court, where Mr. Dowdeswell, the president of the day, entertained the whole party, now numbering between forty and fifty, to dinner; after which the company drove to Bushley church, when the Rev. C. Allen gave a descriptive account of the edifice. They then returned, *viâ* the Tewkesbury station, to Worcester.

THE NEW TOWN-HALL BUILDINGS AT NEWCASTLE-ON-TYNE.—It is the intention of the town council of Newcastle-on-Tyne to formally open the entire suite of buildings in St. Nicholas-square in that town in September, and it is hoped that her Majesty will honour the town with a visit on the occasion. The Corn-exchange, Council-chamber, the River Tyne Commissioners'-room, and other private and public offices in the buildings have already been opened; but by September it is anticipated the large music-hall, capable of containing 3,000 persons, will be ready.

THE ROYAL HIBERNIAN ACADEMY.—A report on the affairs and past management of this academy, by Mr. Norman M'Leod, and certain official correspondence relative to the said report, have been published, on the motion of Mr. Maguire, M.P. The Royal Hibernian Academy has proved a failure as an institution for the cultivation of the fine arts. The causes are alleged to be the narrowness of its constitution (the number of academicians being restricted to fourteen) and miserable mismanagement in matters of detail. To obviate these evils, suggestions are offered by Mr. M'Leod. A correspondence has since taken place between the Academy and the present Lord-Lieutenant of Ireland, and on the 3rd ult. his Excellency was informed by Mr. Mulrenin, the secretary, that the academy would be happy to accept the general proposition of the Viceroy.

VESSELS LONGER THAN THE "LEVIATHAN."—In the *Builder* of May 29th, I observe you give under the heading,—"New Vessels longer than the *Leviathan*," an extract from the *Liverpool Albion*. This paper states that these "vessels" are each 700 feet long! and have been advancing to completion without the general public being even cognizant of their existence. Now to anyone reading the above paragraph, an idea is conveyed of there being something very grand, very vast, and very extraordinary connected with this undertaking, whereas the very contrary is the fact, as I will now prove. First, these "vessels" consist of several "flats," or "barges," each about 100 feet in length, provided with means of attaching them together at each end, on a similar principle to the coupling together of railway carriages, or as we sometimes see the tugs on the river towing two or three barges in a line, one after the other: thus instead of its being a "vessel" 700 feet long, it is nothing more than a train or line of barges "hooked," "linked," or "coupled" to one another, and may just as easily be increased to seven miles in length as be made 700 feet long, only requiring a sufficient number of barges, and a steamer of sufficient power to tow them. The origin of these jointed "vessels," or barges, is most satisfactorily proved to be due to the late Sir Samuel Bentham, and an account of the first used by him, some sixty years since, may be found in, I think, the *Artizan* for last year. Sir Samuel's invention has often been resuscitated, as may be seen in *Hebert's Encyclopædia*, the *Mechanics' Magazine*, and other periodicals, and it is now again brought forward as something new and wonderful. The next remark is, that the general public of Liverpool were not even cognizant of their existence. This is neither remarkable nor extraordinary, for the appearance presented in the yard during their construction was simply that of an ordinary iron ship-yard, with six river barges in course of construction at once; and no one, unless told that they were to compose a "vessel" 700 feet in length, would have thought the proceedings were other than the execution of the orders of half-a-dozen lightermen for iron barges: so I think there is an end of any wonder there.—AN ENGINEER.

PROVISION FOR THE WORKING CLASSES.—When I strongly recommended, in a former number of your valuable journal, the distribution of the working classes of many injurious trades over a more extended space, and to more healthy parts of the country, the editor of the *Times*, and many others at that time, inserted a copy of those remarks from the *Builder*, thereby seconding and enforcing the subject on their readers. Yet no steps have been taken to carry out that desirable object. It ought to form an important item in the legislature of this country, and to have beneficial measures adopted without delay, as the health of thousands depends upon it, both of the higher and lower classes. Who could suppose that, on the opposite side of the Thames, and within about a quarter of a mile of the Houses of Parliament, there would be found a working population crowded and huddled together in the most dilapidated habitations, many of them below high-water mark, and totally unfit for any human beings to occupy. Thousands are employed in the potteries of Lambeth; and any person of common sense must acknowledge that potteries and bone-boilers, and factories of a like nature, ought not to be allowed to continue their operations, to the prejudice of thousands in a populous neighbourhood, and within half a mile of Charing-cross. What a fine site for handsome houses is lost in that part of the river-side, from Lambeth Church and Palace up to Vauxhall-bridge, now occupied by sheds and such-like buildings, which would disgrace any part of our noble river, more especially so close to the Palace of Westminster and the metropolis in general.—R. M. C. R.

ELECTRO-TELEGRAPHIC PROGRESS.—The preliminary expedition and "rehearsal" of the laying down of the Atlantic cable has taken place in the Bay of Biscay; and although the cable was repeatedly broken and lengths of it lost, the result is considered to be "highly satisfactory." Some valuable experience, certainly, has been gained, and the apparatus for paying out and hauling in seems to have worked well, with this exception, that the donkey-engine of 12-horse power in the *Agamemnon* was not powerful enough to lift the cable from very deep water; but the least satisfactory part of the whole business appears to us to be that the only one portion of the cable to be laid which happened to be used in these experiments, was found to be shamefully defective at a point where it broke under a very small strain compared with what the cable is considered to be able to bear, and where no less than six strands of wire were found to be badly joined, and moreover all within the space of 6 inches! Should the attempt prove a failure, the cable, and not the *modus operandi*, is but too likely to be in fault. ——A limited liability company is about to join the Channel Islands, Jersey, Guernsey, and Alderney, with the English coast, according to the *Jersey Times*, which reports the progress of the scheme from week to week.

SUSSEX COUNTY LUNATIC ASYLUM.—This building now in course of erection on the borders of Hayward's Heath, in a south-easterly direction from the railway station, is pretty far advanced, according to the *Brighton Gazette*. In the course of last year the whole of the centre building, or officers' quarters, and one wing, above 200 feet in length, were covered in, as well as an infirmary for males. The style of architecture, chosen by the architect, Mr. H. E. Kendall, jun. of London, is called Byzantine, with red, yellow, and black bricks, coped with Bath stone. Each sleeping apartment for a single individual contains 800 cubic feet of air, with an opening for pure air. The whole of the foul air is being constantly driven off through air chambers built in the roof, to ventilating towers at each end. On each floor are lavatories, baths, and closets. On the ground floor at the back, and running the whole length of the building, is a corridor, covered with glass, above 600 feet long. In the centre of the building, on the ground floor, is a hall for recreation, 60 feet by 25 feet; in front of which is to be a series of terraces. The ground will be laid out with walks. The two water-towers have tanks, each capable of holding 10,000 gallons of water, which will be kept full by a steam-engine from a well in the centre of the building. Should that fail, there is a natural spring on either side, running all the year round. The centre of the building will be appropriated to officers' quarters, and the two wings to 400 inmates. In addition, infirmaries, workshops, bakehouse, brewhouse, washhouse, and sundry other numerous offices and stores are to be erected, several of which are in a very forward state. The gas-works are to be built at the east end capable of supplying 500 lights. There is a separate chapel, capable of containing 400, with a tower about 80 feet high. The works have been carried out under the superintendence of Mr. J. B. Heard, of London. The original contract for the works was taken by Messrs. Rees and Ayres, of Dover, for 37,450*l.*: the engineering contract in addition, amounts to 3,423*l.*: all the extras on the building, up to the present time, only amount to about 800*l.*

THE ELLESMERE MEMORIAL.—Between seventy and eighty designs for the proposed monument to the late Earl of Ellesmere have been sent in for the approbation and selection of the committee, and they will shortly be placed for public inspection in the Royal Manchester Institution, previously to the best being chosen, and the award made. The merits of the models are as various as their designs. The choice will be substantially between half-a-dozen of the best models.

A MARVELLOUS BELFRY.—The belfry of the church of Bon Secours, at Rouen, is about to be supplied with a chime similar to those of Bruges, Antwerp, and Malines, but with all the improvements recently effected. The collection is to consist of twenty-six, and is to play the air "Inviolata" every hour of the day and night; but, in order to avoid the monotony produced by the constant repetition of the same air, the chimes are so arranged that they are to play special airs at Advent, Lent, Christmas, Easter, Whitsuntide, Ascension, and All Saints' Day; in a word, on all the seasons and holidays of the church. In addition, a finger-board has been adapted to the chimes. When our own abortive English attempts to produce far less than this are considered, it may well be called a marvellous belfry.

NEW MINOR MODEL SCHOOL AT OMAGH.—The Board of Public Works in Ireland are about erecting a large school-house at Omagh, with a frontage of 130 feet by 44 feet depth, and standing on an inclosed site of about 428 feet by 110 feet. The building is of Byzantine character, one story in height, except at the left wing, to which is attached a teacher's residence, containing living and bed rooms, kitchens, &c. On the principal front it presents a central gabled feature, connected by low buildings with wings of similar design; and in each are respectively situated infants', boys', and girls' schools: the former 30 feet by 20 feet, the latter each 40 feet by 20 feet, with class, and cap and bonnet rooms, porches, &c. in connection therewith. A triplet-arched window, situated at a height of about 8 feet from the ground, is the chief feature of the wings; and the central building has an arched doorway and two windows. Zig-zag ornaments in limestone, unequal quoins, chamfered arrises, tracery-headed windows, and tall chimneys of various designs, are introduced throughout. Horizontal thorough-ventilated flues are constructed in the roofs over each school-room, and terminate in the front and rear gables in circular apertures, 15 inches in diameter. The front and flanks are to be built of squared stone, with half-hammered face and horizontal beds, and vertical joints. Extensive playgrounds are attached. We should specify that this is the second set of plans made by the Board for this building, the first having been found too expensive.

ISLINGTON AND CLERKENWELL.—Sir: Knowing the earnestness with which you press sanitary improvements upon all classes, I venture to solicit your influence to induce the authorities of Islington and Clerkenwell to examine thoroughly both these parishes. I am glad you referred last week to Pulteney-terrace; I would call attention to No. —, White Conduit-street, where one of these filthy open cesspools is still in use. I have been to the "Commissioners" of Islington and Clerkenwell, and whether the landlady *promised* to make the required improvements or not I cannot say, but it is not done. *Sickness has already been the result of delay*, and a medical practitioner who attended the sickness wrote to the Commissioner, but it has not had the desired effect; and perhaps the best way is to expose it, that further sickness may not be caused. And while this house is being examined, there are several others in the immediate vicinity nearly if not quite as bad.—G. H.

ATTEMPTED INFRINGEMENT OF PATENT FOR MOULDING PIPES.—A case of some importance to inventors and patentees was lately disposed of by the Solicitor-General. The discussion arose in an application by Mr. Steven, a partner in the firm of John M'Dowall and Co. Milton Foundry, Glasgow, Thomas Reid, foreman moulder, and Thomas Frew, foreman pattern-maker to the same firm, for a patent for "improvements in making moulds for castings," the granting of which was opposed by Mr. Macfarlane, of the Saracen Foundry, of the same city, who explained to the Solicitor-General his grounds for suspecting that the patent applied for contemplated an infringement on his patents. The Solicitor-General having heard both parties, and examined models, expressed an opinion and decision to the effect that the arrangements for which the applicants attempted to obtain a patent were direct infringements of Mr. Macfarlane's patented inventions.

THE ARMY WORKS CORPS AND SIR J. PAXTON.—The Army Works Corps are pursuing their demands upon Sir Joseph Paxton. A rule was lately obtained, on the part of Sir Joseph, to show cause why the proceedings should not be stayed. It appears that, arising out of the dispute in relation to the claims of the discharged corps, no less than forty-six actions have been brought against Sir Joseph. The men were employed by the authority of the Government, and it is alleged that at the termination of the contract all their claims were fully paid: it is to save the enormous expense of so many actions that the rule was applied for.

GREECE.—According to the *Literary Gazette*, the excavations of the theatre of Herodes Atticus, near Athens, are almost completed. The whole front, which is built in the Roman style, is now freed from rubbish, and the proscenium and the marble seats are exposed to view. The latter are capable of providing ample room for 12,000 people. They have evidently suffered much from the action of fire. A male statue of considerable beauty was lately found amongst the ruins. The head and the right-arm were wanting, but the head was afterwards dug up. The hair was gilt, the eye-lashes painted, and the iris of the eye coloured.

ARRANGEMENT OF HEARTHS FOR VENTILATION. A Manchester correspondent, Mr. Isaac Holden, encloses for our inspection a tracing from a drawing said to have been submitted by him, in 1848, for the New County Lunatic Asylum at Prestwich, near Manchester, for which place he had designed it; and he draws our attention to the fact that there is a remarkable similarity in the arrangement to that patented by Mr. Jennings. Mr. Holden, however, does not suppose it possible for that gentleman to have seen his design, and adduces it only as a somewhat curious coincidence of ideas, but suggests that, as his design was published at the time of its formation, the value of Mr. Jennings's patent may be affected by it.

COVENT-GARDEN ROYAL ITALIAN OPERA-HOUSE.—At a meeting of the Committee of Management of St. Paul's, Covent-garden, in the Vestry-room of that parish, on Monday last, Mr. Paine (for the third time) and also Mr. Hakewill were appointed to the survey and valuation of this theatre for the purpose of parochial assessment. The survey of the new Board of Works' buildings and offices, together with sundry other properties in King-street and Bow-street, were referred to Mr. Paine.

FREE PLAYGROUNDS FOR THE PEOPLE.—Mr. C. P. Melly, a young merchant of Liverpool, after having provided the public and especially the poor of that town with numerous wall fountains, has recently fitted up a piece of land in the suburbs, belonging to the corporation, as a free gymnasium and playground for the people. It has just been opened, and is numerously attended.

THE NEW APPROACH TO WESTMINSTER ABBEY. On the Bill now before Parliament to give power to build over the whole vacant ground opposite the western front of Westminster Abbey, Lord Redesdale has decided that he cannot look to public interests in the matter, as no Act of Parliament has been passed to give powers to purchase the land in question. He has, however, consented to take the opinion of Mr. Clutton, of the Woods and Forests, as to whether the rental agreed to be given is the full and fair value of the property.

RAILWAY CARRIAGE LAMPS.—As there is a time for everything, I most earnestly hope that the directors of our several railways will avail of the present long days to effect some improvement in railway carriage lamps. To thousands of professional and business men, the time spent on the journeys to and from town is most valuable, but in the winter season is rendered almost unavailable for the purposes of either profitable employment or literary relaxation, from the defective light which is so very generally furnished. Surely in the present day, the skill and enterprise of the country are equal to the production of a carriage lamp, which shall afford sufficient illumination to enable the occupants of a carriage to read with ease and comfort, instead of with pain and vexation. The long-journey passenger, as also the residential one, will hail an improved light as a great boon. Pecuniary considerations cannot be regarded as the impediment to progressive steps in burners, reflectors, and glasses, as the expense must obviously be inconsiderable.—SPES.

LAND VALUATION.—For years I have been one of your constant readers, and the other day I read with much pleasure your review of Mr. Morton's book, "The Resources of Estates." I have in my memory many important suggestions which came from your pen, and in requital I ask you to lodge in your memory one from my pen on the above subject. You could readily enough dash me off a plan of a mansion, or any other important building, and all the other plans necessarily connected with it; but you could not tell me, within a trifle, what it would cost to erect your mansion without soundly *working out your quantities*. In like manner, it is an easy thing for a valuer to tell an employer that a given farm is worth a certain yearly rent; but, unless the man works out *his* quantities—brings himself by a sound demonstrative debtor and creditor statement to the balance rent, no man in his senses ought to consider him a true valuer; and until all landowners demand from their land-agents, that to every valuation there shall be appended these demonstrations, we shall go on having nothing better than charlatan land-valuers. I write to you with much respect, and I hope you will not deem me a vulgar intruder. For twenty years I have been collecting materials for a work on the "landed interest," and this is why I am at home on the above point.—SAMUEL PAULL, Fellow of the London Statistical Society.

INSTITUTE OF BRITISH ARCHITECTS.—The closing general meeting will be held on Monday evening next, the 14th inst. when the discussion on Mr. Burgess's paper will be resumed, and the following paper will be read: "Notes on the assumed Use of Chesnut Timber in the Carpentry of Old Buildings," by Mr. Wyatt Papworth. The loan of specimens of presumed chesnut wood obtained from any structure, is requested for the evening. McKinnell's patent system of ventilation will be explained.

TENDERS.

For alterations and additions to Walton Hall, Warwickshire. Mr. G. G. Scott, architect:—

Symm (Oxford)	£28,998	0	0
Wheeler (Reading)	28,000	0	0
Higgs (London)	27,872	0	0
Hardwick (Birmingham)	27,595	0	0
Robinson (Coventry)	27,538	0	0
Ruddle (Peterborough)	26,794	0	0
Piper (London)	25,750	0	0
Trollope (London)	23,673	0	0
Norris (London) (accepted)	22,250	0	0

For warehouse, Nos. 5, 5½, and 6, Newgate-street, for Messrs. Hutton and Co. Messrs. Tillott and Chamberlain, architects. Quantities supplied:—

Myers	£5,419	0	0
Jay	5,039	0	0
Nicholson and Son	4,857	0	0
Lawrence and Son	4,840	0	0
Piper and Son	4,757	0	0
Wilson	4,726	0	0
Pritchard and Son	4,710	0	0
Browne and Robinson (accepted)	4,357	0	0

For a parsonage at Thames Ditton, Surrey, for the Rev. W. Talman. Quantities supplied by Messrs. Pearson and Doughney:—

Lote	£1,978	0	0
Donnelly	1,523	0	0
Willans	1,466	0	0
Adamson and Sons	1,259	0	0
Goulter	1,219	10	0
Matthews and Son	1,199	0	0
Heather	1,149	0	0
Barker, J. and W.	1,094	0	0
Evans, Brothers	1,087	0	0
Dodson and Son	1,085	0	0

For an infant school and teacher's residence, in connection with St. Matthew's schools, City-road. Messrs. Mason and White, architects. Quantities taken out by Mr. Cant:—

Hill	£689	0	0
Hedges	669	0	0
Piper and Son	669	0	0
Cole	649	0	0
Roe	649	0	0
Wood	637	0	0
Pritchard	635	0	0
Brown	590	0	0
Joshua Wilson	586	17	0

For alterations and repairs to a house, 18, Little Russell-street, Bloomsbury, for Mrs. Harding. Mr. W. J. Trehearne, architect:—

Cole	£300	0	0
Williams	295	0	0
Hawkes	287	0	0
Miller	285	0	0

For re-building Kentchurch church, Herefordshire. Messrs. Prichard and Seddon, architects, Llandaff, and 6, Whitehall:—

		If roof new.
Hoskins (Abergavenny)	£925	£985
Ramm (Abergavenny)	900	950
Lewis (Raglan)	872	932
Bigglestone and Bowlers (Hereford) (accepted)	856	911

For re-building nave and restoring chancel of Llangwm Ucca church, Monmouthshire. Messrs. Prichard and Seddon, Architects, Llandaff, and 6, Whitehall:—

	Nave.	Chancel.
Young (Chepstow)	£767	£175
Jackson (Monmouth)	534	26
Ramm (Abergavenny)	500	50
Lewis (Raglan) (accepted)	482	77

For villa to be erected at Harrow-on-the-Hill. Mr. C. Laws, architect:—

	Bricklayer, Slater, Mason, and Plasterer.	Carpenter, Plumber, Painter, Glazier, and Smith.
Chapman	£620*	.....
Woodbridge	.....	£453
Waldron	.....	434*

* Accepted.

For a house and offices, conservatory, and boundary walls, at Mortlake, Surrey, for Mr. James Wigan. Mr. R. P. Pope, architect. Quantities by Messrs. Pearson and Doughney:—

	House, &c.	Conservatory			Boundary walls, per rod.		
	£.	£.	s.	d.	£.	s.	d.
Gates	3,530	156	10	0	10	10	0
Donelly	3,320	128	0	0	11	0	0
Bray	3,247	136	0	0	11	0	0
J. and W. Todd	3,105	144	0	0			
McLennan and Bird	2,687	120	0	0	10	17	6
Patman	2,670	124	0	0	10	10	0
W. Dove	2,631	137	0	0	10	0	0
Ayers and Co.	2,628	120	0	0	10	5	0
Adamson and Son	2,559	113	0	0	10	0	0
W. T. Purkiss	2,550	129	0	0	10	0	0
Goodall	2,533	85	0	0			
Hawkins	2,460	135	0	0	10	0	0
Barker, J. and W.	2,298	94	0	0	10	0	0
Pickard	2,197	119	0	0	9	7	6
Jarvis & Co.	2,164	117	0	0	9	5	0